

THE DIED

I AM THE LAW

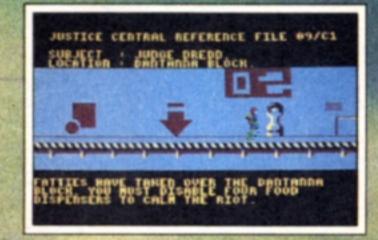




AMIGA • £19.99



ATARI ST • £19.99



AMSTRAD - DISK £14.99 AMSTRAD - CASS £9.99



SPECTRUM +3 • DISK £14.99 SPECTRUM • CASS £9.99

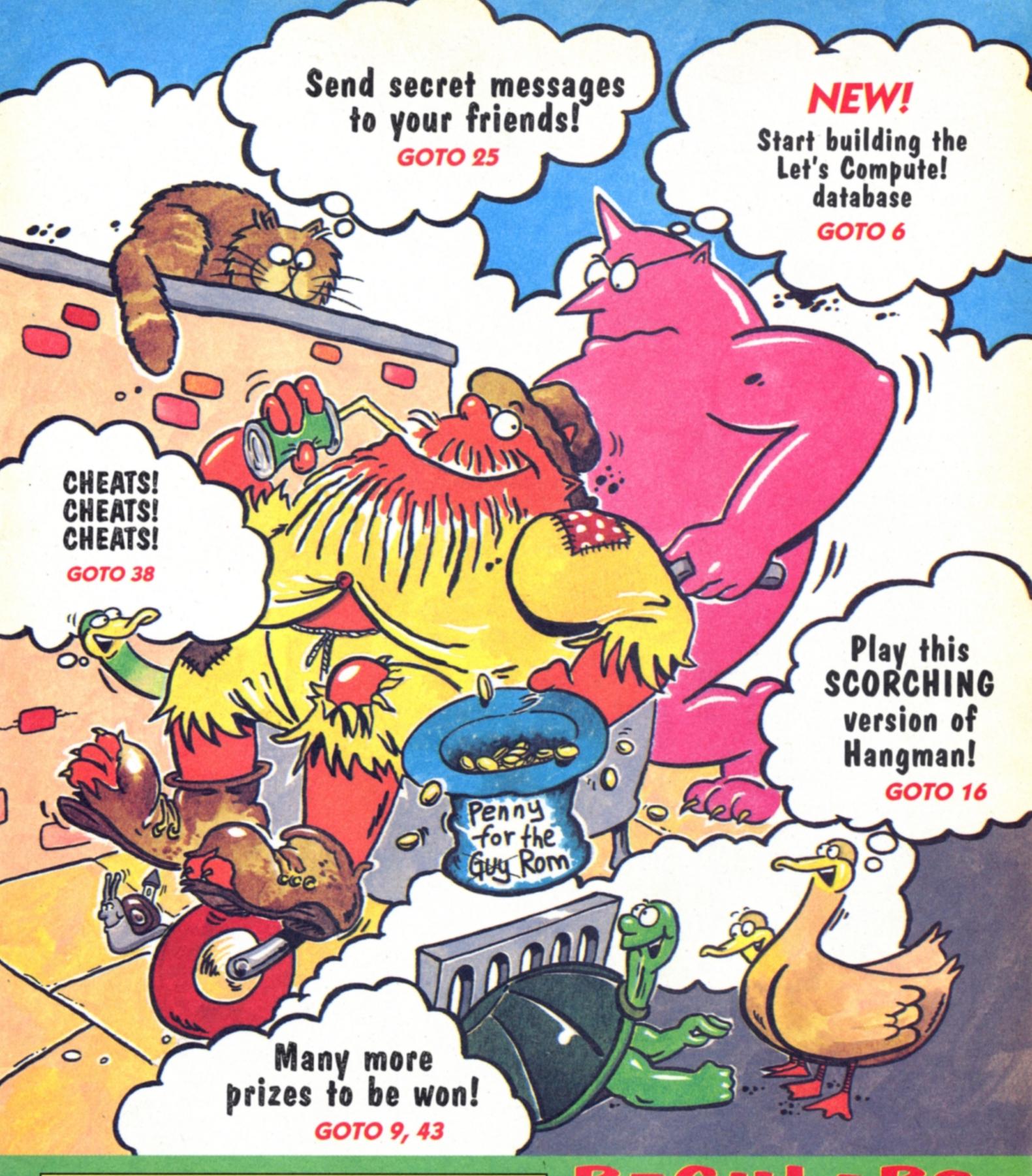


CBM 64 • DISK £14.99 CBM 64 • CASS £9.99



© Fleetway Publications 1989/90

P Virgin Mastertronic 1990



Published by Database Publications Ltd, Europa House, Adlington Park, Macclesfield ST10 5NP

Tel: 0625 878888 (All departments) 051-357 2961 (Subscriptions) Telex: 94081191 Fax: 0625 879966 MicroLink: MAG001

Managing Editor Derek Meakin
Features Editor Peter Davidson
Creative Editor Mark Nolan
Ace Cartoonist Mike Goldberg
Production Editor Peter Glover
Ad Manager John Snowden
Ad Sales Yvonne Benson/John Weir
Circulation Exec Carolyn Wood

© 1990 Database Publications Ltd. No material may be reproduced in whole or in part without written permission. While every care is taken, the publishers cannot be held legally responsible for any errors in articles or advertisements.

News trade distribution: Comag, Telephone: 0895-444055.

Database Publications is a division of Europress Ltd

REGULARS

GOTO 8 **Final Front Ear GOTO 11 Rom and Ram GOTO 14 Gadget Shop** Safe Scientist **GOTO 18 GOTO 20 How a Computer Works Keyboard Kapers GOTO 27** Logo Lowdown **GOTO 35 Program Doctor GOTO 41**

The third issue of Let's Compute! is brilliant. My favourite is the Witches' Brew program.

But some of the drinks it prints out have had very odd names. I haven't dared try them yet.

I've had names ranging from a JAREMOUBASIKATOSEFUX to a BUZE. Booze is a great name for a drink.

Some of the names have been even funnier. But I daren't write them down here.

Keep up the good work. I hope you print lots more short, fun programs like that soon.

- Paul Bailey, Didsbury

I think Let's Compute is brill, fantastic, amazing and excellent.

Please could you tell me where I can buy a Roamer like the competition prizes in the preview issue? Also, how much does it cost?

- James Clark (11), Tonbridge, Kent.

The Valiant Roamer costs £89.95. You can also get lots of bits and pieces to go with it.

Details from Valiant Technology, Gulf House, 370 Old York Road, Wandsworth, London SW18 1SP. Phone 071-874 8747



If you have any tips for other readers, send them in. And if you have any questions about your computer or software just ask us. We'll try to answer them on the Noticeboard.

Let us know what you want to see in future issues. And if we use your letter or ideas we'll send you a Let's Compute! baseball hat!

Send your letters to



Let's Compute!
Europa House,
Adlington Park,
Macclesfield
SK10 4NP.

Remember to tell us your age.

I received Turtle Logo with my club membership pack for the BBC Micro. I already know some commands like FD, BK, RT and LT, but could you please help me with some others?

First, I would like to save my programs. I've tried: SAVE"TURTLE" but it doesn't work.

Also, I can't find out how to print my programs. Should I use PRINT?

- Anna Kucyj, Kingsbridge, Devon.

You've used the SAVE command for Basic. The instruction in Logo is slightly different. You only need one quote and a space is important.

So, to save your program, type:

SAVE "MYPROG

You shouldn't use TURTLE as a name because if you're using a disc it would replace the one on it that's already called that.

PRINT isn't for listing your program in Logo. It's for printing things out. The Let's Compute! turtles will showing how to do this in future issues.

Turtle Logo won't let you list your program on paper. But you can see and change a procedure that you set up with, say:

TO LOOP

All you need to do is type:

EDIT "LOOP

Next month the turtles in Logo Lowdown explain SAVE and PRINT.

Turtle Logo is a simple introduction to Logo for Let's Compute! readers. But it doesn't have ALL the features of the complete Logo language.

If you want those you need something like Logotron Logo. There are money-off vouchers for that in your club pack.

Computer Shows coming soon...

Want to see the latest computers in action? Buy new games or hardware? Or just get some friendly advice?

Then don't miss the Computer Shopper Show. It's at Wembly from Thursday, December 6, to Sunday, December 9.

It's the biggest computer show of the year and an ideal place to do your Christmas shopping. You can find out more about it on page 44.

And if you live in the Manchester, Stockport or Wilmslow area you can travel to London cheap on the Saturday. As part of a fund-raising campaign to build a new hut, 1st Heaton Moor Scout Group have arranged a day trip to London.

It only costs £16 for adults and £10 for children. So you can visit London and see the show for much less than the usual price of a day out in London.

For more details of the train, ring Beryl Hornby (061-442 9573) or leave a message on 061-443 2211 ext 710 (24 hr).

• Watford Electronics are holding an Open Day on Sunday, November 4. It's at their shop in Watford High Street and we'll be there. So if there's anything you'd like to find out or tell us about Let's Compute! it's an ideal chance.



The Games Magic series is brill. I'm really enjoying building my own game.

But when I ran the version I created in issue 2 it didn't give any sounds or score. Yet when I defined my own clocks it worked well.

Can you please explain this?

Also, when I typed in the Issue 3 listing I got an error message: Array at Line 850. So I took out the part of the line that uses arrays and left just the GOSUB 1840.

The game then worked perfectly.

- Alan Pugh (14), Wimbledon

Line 720 of the listing in Issue 1 sets p% and q% to the position of the corner of the clock. If the clock is narrow you need to add a bit to p%.

So if you change p%=(X%+x%)*64 to p%=(X%+x%)*64+8 the clock that is in Issue 2 will be detected. The part of the program that finds the clock is different in Issue 3 so now you're up to there you needn't worry about it.

You were right to remove that bit of line 1840 - it was accidentally left in.

HIGH SCORES CHALLENGES

Game	Computer	Score	Name	Age
Goldrunner	Atari ST	205,800	John Butters	13
Danger UXB	BBC	252,290	Janet McKnight	12
Pipemania	Archimedes	22250	James Peters	10
Jet Boot Jack	Atari 800XL	98050	Jane Emery	9
E-Type	Archimedes	243418	Matthew Short	14
Wings of Fury	Amiga	73,120	Nick Green	15
Atommix	Amiga	38210	John Kennedy	11

If you want to see YOUR name on the high score table, just fill in and post the coupon below. Post it to High Scores, *Let's Compute!* Europa House, Adlington Park, Macclesfield SK10 4NP.

We'll print the best.

High so	core challenge
Name	
Address	
	Age
Computer	
Game	Score

Competition Results

We had an amazing response to the T-Shirt Designer Competition in the September issue of *Let's Compute!*

There were some excellent designs to choose from. The first four prize winners will all be receiving a set of special colour ribbons PLUS a set of special pens which will allow them to transfer their designs to their T-Shirt.

The four top winners are: Ben Moulton, Grantham; Colin Bracegirdle, Heaton Mersey; Alexander Grumbley, Amesbury; and M Chaoman, Wenhaston.

The next 24 entries will get sets of the pens.

Alphabet Artist Winners

This month's five lucky winners who'll be receiving a copy of Art Studio from Impact Software are:

Roderick Begbie (13), Tillicoultry, Clackmannanshire – an eagle

Sean Cardius (14), Runcorn, Cheshire - a clown

Thomas Lord (11), Huddersfield, Yorkshire – a man

James Jagger (12), Welton, Lincoln - a lorry

Gregory Pearson (11), Westbury-on-Trym, Bristol - Rom and Ram

- If you haven't sent in your entry yet there's still time. But hurry up! The closing date is November 30.
- And remember, there's an impressive certificate for EVERY entry. Please enclose a large sae so we can send it to you.
- There were entry forms in the first two issues of Let's Compute! But if you haven't got one just send your entry with your name, address and age clearly written on a piece of paper.

Superior Software Competition Winners!



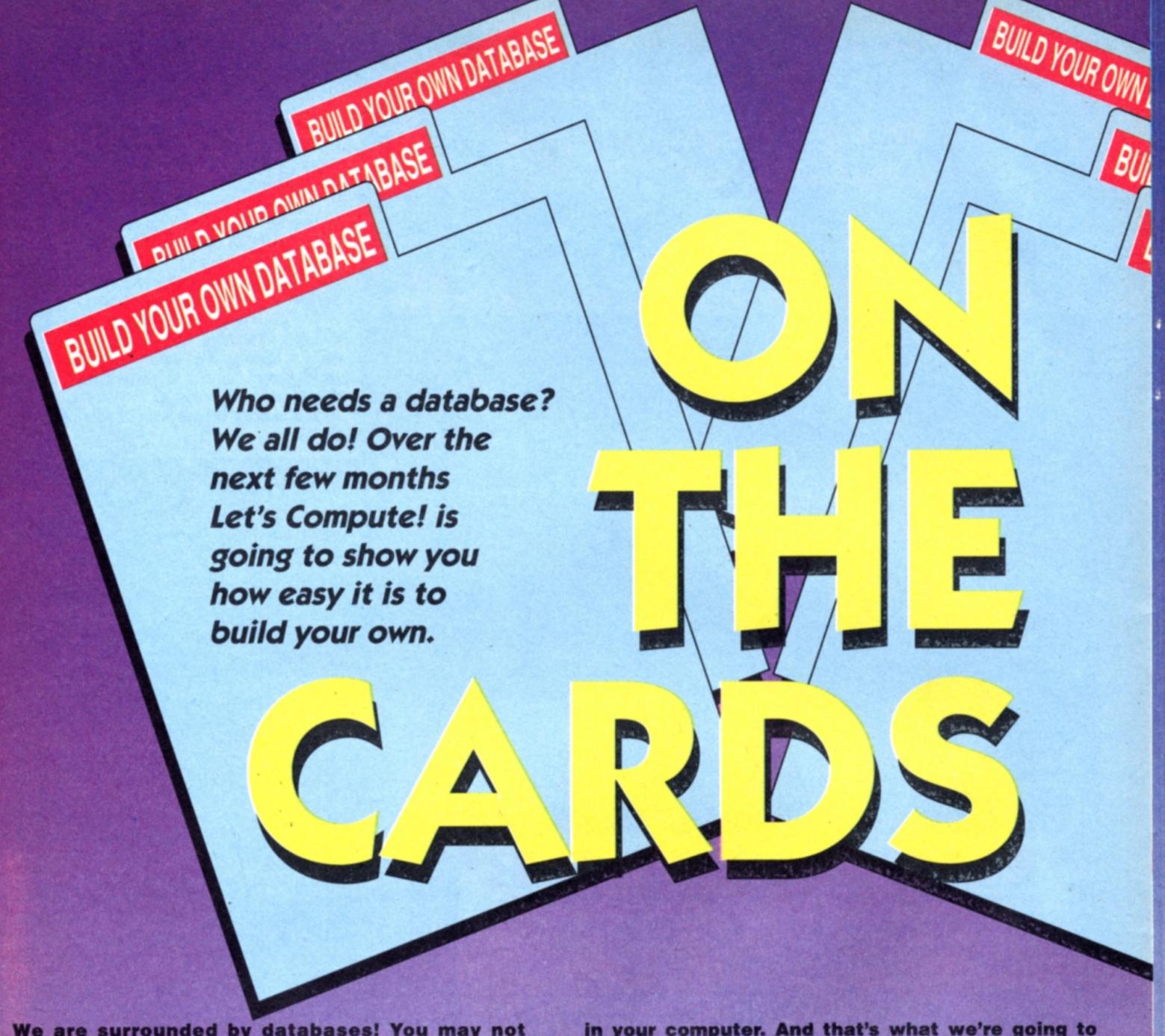
We asked you to choose five answers to questions about football in the September issue of Let's Compute!

There were lots of correct entries.

Four first prizes of Subbuteo sets are on their way to:

Chris Penfold (10), Crawley; Anne Bushell (12), Poole; James Hayward (7), Rochester and Richard Johnson (8), Benton.

Runners up prizes of that superb football game, Superior Soccer, go to: David Chisnell (8), North Bersted; R Williams (14), Batley; Paul Solecki (13), Chesterfield; David Ashworth (13), Horwich; Stephen Threlfall (13), Horsham; Peter Philip (13), Chelmsford; Jonathan Rawle (11), Kidderminster; James Squire (13), Cambridge; Ewen Mcintosh (8), Haddington; Colin Pursell (8), Eastham; Timothy Mansfield (9), Bristol; Jamie Radford (14), Swansea; Christopher Butler (15), Stourbridge; James Gaynor (14), Wimbledon Village; James Allen (12), New Eltham; Stephen Judd, Potton; Ryan Wilson-Parker (11), Glasgow; Michael Jones (13), Newcastle Emlyn; Ceri Jones (10), Rhiwbina and Gordon Blake (14), Dunstable.



We are surrounded by databases! You may not realise it but we use them all the time.

Have you ever had to use the phone book to find out the number of a friend? This is a kind of database - it's a list of names, addresses and numbers.

You have probably seen teletext - Ceefax and Oracle - on your TV. Hundreds of pages can be called up by pressing a few buttons.

There is a wide variety of information on teletext. It ranges from jokes to the latest news. But it's just another kind of database.

What would YOU use a database for? You can keep a record of your favourite football team's results. Or a list of the names of the songs on your cassettes.

If you collect anything – stamps, toy cars, records, cards, stickers and so on – you need to keep track of what you've got. The best way to do this is with a database.

It's easy to create your own database on pieces of paper. Just collect the information and and write it down. But it's much more fun to use your computer.

Paper is easily lost. And it can take quite a long time to search for the item you need.

But you can do it in a flash if you have a database

in your computer. And that's what we're going to make over the next few months.

It will be like a card index file. You'll have about 51 "cards" and you can write down anything you want on them.

Then, if you want, you'll be able to sort them into alphabetical order. This will make it really easy to find any card you want.

You'll be able to store them on tape or disc so they can be used again and again. And you'll be able to print them out. So you can always have an up to date written copy of your cards.

How do you use your database? You start by choosing what you want to do from a list on your screen. This is called the menu. It will look like the panei above.

So let's begin building our database. And the first thing we need to create is the menu. That is what this month's program does.

Type it in and then SAVE it on tape or disc. Then you can RUN it and have a look at the things you'll be able to do with your computerised database.

Try picking one of the choices. All you need to do is type in the number of the one you want.

At the moment nothing useful will happen. In fact you'll just get an error message telling you that lines are missing!



CARD INDEX DATABASE

- 1. Load a box of cards
- 2. Save a box of cards
- 3. Read/search for a card
- 4. Write on a new card
- 5. Throw away old cards
- 6. Change something on a card
- 7. Print the cards
- 8. Sort the cards into order
- 9. Stop the program

Cards free=45/Cards used=6 What do you want to do? Please type in a number (1-9)

10 REM Card Index Database 20 REM By Roland Waddilove 30 DIM C\$(255) 40 FOR X=1 TO 255 50 LET C\$(X)="*" 60 NEXT X 70 REM ===== MAIN MENU ===== 80 CLS 90 PRINT " CARD INDEX DATABASE" 110 PRINT 120 PRINT "1. Load a box of cards" 130 PRINT "2. Save a box of cards" 140 PRINT "3. Read/search for a card" 150 PRINT "4. Write on a new card" 160 PRINT "5. Throw away old cards" 170 PRINT "6. Change something on a card"

180	PRINT	"7. P	rint the	cards"	
190	PRINT	"8. S	ort the	cards into	order"
200	PRINT	"9. S	top the	program"	
210	PRINT				
220	LET N	=0			
230	FOR X	=1 TO	251 STEP	5	
240	IF C\$	(X)="*	THEN L	ET N=N+1	
250	NEXT	X			
260	PRINT	"Card	s free="	;N;"/Cards	used=";51-N
270	PRINT				
280	PRINT	"What	do you	want to do	?"
290	INPUT	"Pleas	se type	in a number	(1-9)";N
300	CLS			A CONTRACTOR	
310	IF N=	9 THEN	END		
320	ON N	GOSUB '	1000,200	0,3000,4000	,5000,6000
,700	0,800	0 .			
330	GOTO	70			

IS THIS YOUR COMPUTER?

Electron/BBC/Archimedes/ CPC/PC (GW-Basic)

The program works as shown

Amiga (Amos)

Change Line 80 to: 80 MODE 0:KEY OFF:HIDE

Atari ST (Stos)

Change Line 80 to: 80 CLS:HIDE

Spectrum

Select 48k mode Change or add the following lines:

30 DIM C\$(255,32) 35 DIM B\$(32):LET B\$="*" 240 IF C\$(X)=B\$ THEN LET N=N+1 310 IF N=9 THEN STOP

320 GOSUB N*1000

Commodore 64/128

Enter the program in capitals Change CLS in lines 80 and 300 to: PRINT CHR\$(147);

works

First, the program tells the computer to save room in its memory for the cards.

it's called DIMension-ing the array C\$. In this will be held all the information on the 51 cards.

It's dimensioned to 255 so that each card can use five of the memory areas reserved by the DIM.

Next, the menu is printed on the screen. An INPUT command is then used to find out which choice you've asked for.

The number that you type in is held in N and the command on Line 260 will make the program jump to the right subroutine.

All we've got to do now is put the subroutines into the program. We'll start doing that next month.

NEXT MONTH We'll start adding the missing lines. And then you'll be ab/e to begin writing Your cards



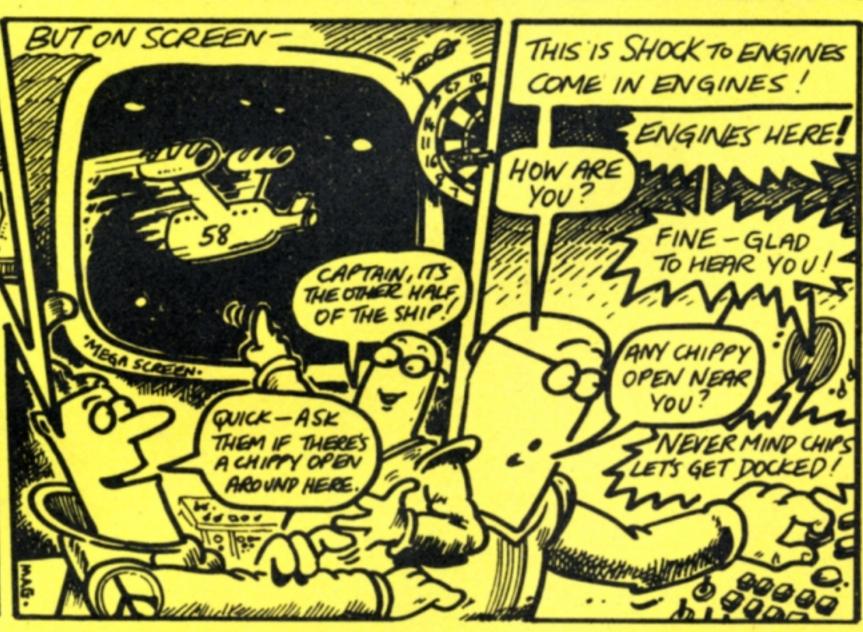


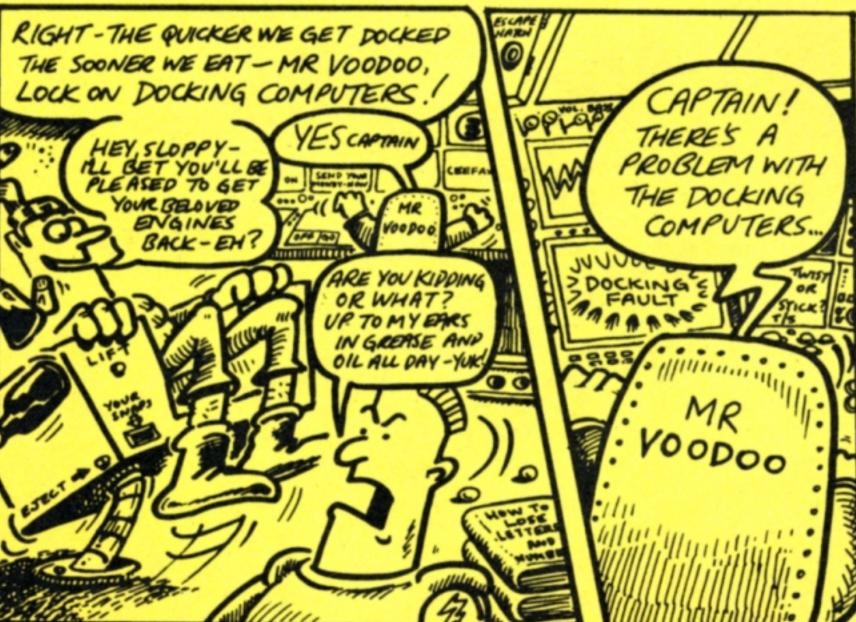


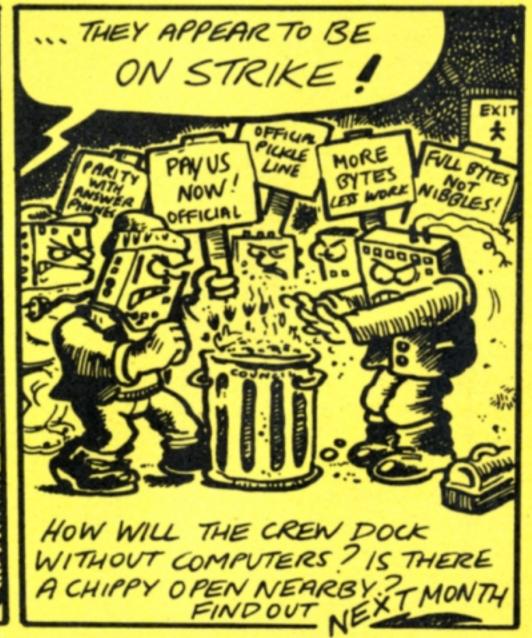












© Copywright Let's Compute! Not to be reproduced without written permission

0/(2/1435)5

Calling all users of the BBC, Electron (with Plus 1), Archimedes, PC, ST and Amiga! YOU could be one of four lucky readers to win a spanking brand new disc drive for your computer.

They all take 3.5in discs* and come complete with all the necessary leads. They're ideal to upgrade your tape system. And if you already use discs, here's your chance to add another drive.

What you have to do

All you must do to win a superb new disc drive is answer the five questions below. Then fill in the entry form and send it to Let's Compute! before November 20,1990.

* If you are a BBC or Electron owner and want a 5.25in drive note this on your entry form.

THE QUESTIONS

- 1 What does MSdos stand for?
- a) Microsoft Disc Operating System
- b) Most Standard Disc Operating System
- c) Microsoft's Disc Only System
- 2 Why are keyboards known as Qwerty?
- a) They are made by a company called Qwerty
- b) They are the first six letters on a keyboard
- c) Mr. Qwerty invented keyboards
- 3 In which country did Atari and Commodore start?
 - a) Great Britain
 - b) Germany
 - c) USA
- 4 IBM has a nickname. Which one is it?
 - a) The Big Yellow
 - b) The Big Blue
 - c) The Big Apple
- 5 Each letter in the word Basic stands for a word. What are they?
 - a) Beginners All purpose Symbolic Instruction Code
 - b) Best and Simplest Instruction Code
 - c) Beginners And Students Information Circuitry

Cumana Contest Entry Form

If I win, I'd like a disc drive for my: □ BBC* Electron* Atari ST □ Commodore Amiga Archimedes ☐ IBM PC compatible * \(\subset\) I'd prefer a 5.25in drive Answers Postcode

Age

Send this to: Cumana Contest, Let's Compute!, Europa House, Adlington Park, Macclesfield SK10 4NP.



TURBOSOFT

TOP MOVERS	SPEC	AMS	C64
TITLE Adidas Football Batman Movie Bloodwych Bomber Castlemaster Chase HQ Back to the Future 2 Cricket Master DDT Dragon Ninja Emlyn Hughes Football Director, Ghouls n Ghosts Gunship Hammerfist Hostages Hammerfist International 3D Tennis Impossamole Jack Nicklaus Golf Klax Kick Off 2 Lords of Chaos Laser Squad Manchester United Microprose Soccer New Zealand Story Op T'Bolt Oriental Games Pipemania Project Stealth Fighter Robocop Rainbow Islands Shadow Warriors Sim City Stunt Car Racer Strider	Cass Disc 9.99 12.99 7.99 11.99	Cass N/A N/A 7.99 11.99	C64 Cass 9.99 12.99 7.99 11.99
Turrican Time Machine Treble Champions Turbo Outrun Test Drive 2 The Duel World Championship Boxing Manager X Out	7.99 11.99 7.99 11.99 7.99 N/A 7.99 11.99 7.99 11.99 7.99 N/A 7.99 11.99	7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99	7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99 7.99 11.99

SPECIAL OFFERS	SP	EC	AN	IS	C	64
TITLE APB Afterburner Brian Cloughs Barbarian II Crackdown Chuck Yeager Dragon Spirit Emotion Football Manager 2 + Exp F15 Strike Eagle Galaxy Force Ghosts n Goblins Ghost Busters II Hunt for Red October Hard Drivin' Mr Hen Hot Rod Myth Ninja Spirit P47 Thunderbolt Pacland Pacmania Running Man SDI Sonic Boom Skate or Die Starwars Time & Magic Tusker Vendetta	Cass 3.99 3.99 3.99 4.99 2.99 3.99 4.99 2.99 3.99 4.99 4.99 4.99 4.99 4.99 4.99 4	Disc N/A N/A 7.99 N/A 6.99 N/A N/A 9.94 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	Cass 3.99 N/A 3.99 4.99 4.99 4.99 4.99 4.99 4.99 4.99	Disc N/A 7.99 7.99 N/A N/A 6.99 N/A 9.99 11.99 3.99 N/A 6.99 7.99 7.99 7.99 7.99 7.99 7.99 7.99	Cass 3.99 3.99 3.99 4.99 4.99 6.99 1.99 1.99 N/A 4.99 N/A 4.99 1.99 1.99 4.99 4.99 4.99 4.99 4.99	Disc N/A N/A 7.99 N/A 6.99 N/A 9.99 11.99 N/A 4.99 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A
Answer Back Junior Better Maths 12-16 Better Spelling 9-14 Fun School 2 Under 6 6-8 8+ Fun School 3 U5 5-7 7+ French Mistress Adv or Beg German Master	7.99 N/A N/A 7.99 7.99 7.99 9.99 9.99 6.99 6.99	9.99 N/A N/A 11.99 11.99 12.99 12.99 12.99 9.99 9.99	7.99 8.99 7.99 7.99 7.99 9.99 9.99 6.99 6.99	10.99 13.99 13.99 9.99 9.99 12.99 12.99 12.99 9.99 9.9	N/A N/A N/A 7.99 7.99 7.99 9.99 9.99 N/A N/A	N/A N/A 11.99 11.99 12.99 12.99 12.99 N/A N/A

TOP MOVERS	AST	Amiga
TITLE	21/2	10.00
Apprentice Battlechess	N/A 17.99	19.99 17.99
Corporation	N/A	17.99
Chase HQ	14.99	17.99
Damocles	14.99	14.99
Dragons Breath	18.99	18.99
Emlyn Hughes	12.99	12.99
Escape from Singes Castle	N/A	26.99
F29 Retaliator	17.99	17.99
Flood	17.99	17.99
Falcon Mission Disc 2 F16 Falcon	13.99 17.99	13.99 19.99
F19 Stealth Fighter	18.99	18.99
Imperium	17.99	17.99
Imortal	17.99	17.99
Iron Lord	17.99	17.99
International 3D Tennis	16.99	14.99
Kick Off 2 World Cup Edition	17.99	17.99
Last Ninja 2	17.99	17.99
Lost Patrol	N/A	17.99
Leisure Suit Larry 3 Midwinter	26.99 19.99	26.99 19.99
Midnight Resistance	13.99	17.99
Magic Fly	17.99	17.99
Night Breed	17.99	17.99
Operation Thunderbolt	13.99	17.99
Postman Pat	6.99	6.99
Player Manager	11.99	11.99
Projectile	17.99	17.99
Rainbow Islands	13.99	13.99
Shadow of Beast 1 Shadow of Beast 2	16.99 N/A	10.99
Shadow Or Beast 2 Shadow Warriors	13.99	17.99
Space Ace (1 Meg Amiga)	26.99	26.99
Team Yankee	18.99	18.99
Their Finest Hour	19.99	19.99
Turrican	13.99	13.99
Unreal	N/A	17.99
Weltris	N/A	16.99
Wings	N/A 17.99	19.99
Warhead X-Out	13.99	17.99 13.99
688 Attack Sub	N/A	17.99
ood / illidoit odd	1.077	17.00

SPECIAL OFFERS	AST	Amiga
TITLE Airborne Ranger Afterburner Baal Ballistix Barbarian 2 (Palace) Boulderdash Construction Kit Beach Volley Balance of Power Cloud Kingdoms Centrefold Squares Commando Drakken Dynamite Dux Dragon Spirit Dungeon Master Faery Tale Grand Prix Circuit Gunship Hunt for Red October Hard Drivin' Hoyles Book of Games Interphase Klax Laser Squad Lombard Rally Lords of Rising Sun Marble Madness North & South P47 Thunderbolt Pacland Pacmania Rick Dangerous Rocket Ranger SDT Sim City Super Wonderboy Strider Silent Service Starwars Trilogy Speedball Turbo Outrun TV Sports Football UMS Data Civil War UMS Data Civil War	9.99 4.99 4.99 4.99 7.99 4.99 7.99 4.99 7.99 4.99 7.99 14.99 7.99 14.99 7.99 9.99 14.99 7.99 9.99 8.99 8.99 7.99 9.99 18.99 18.99 9.99 4.99 18.99 9.99 9.99 9.99 9.99 9.99 9.99	9.99 N/A 4.99 4.99 14.99

UNIT 6 & 7, ACACIA CLOSE, CHERRYCOURT WAY IND. EST., STANBRIDGE ROAD, LEIGHTON BUZZARD, BEDS, LU7 8QE (PERSONAL CALLERS WELCOME) TEL: 0525 377974 FAX: 0525 852278

PLEASE CHARGE MY ACCESS/VISA NO..... EXPIRY EXPIRY

Date:
Price Address:
7.00.000
Post Code:
Tel:

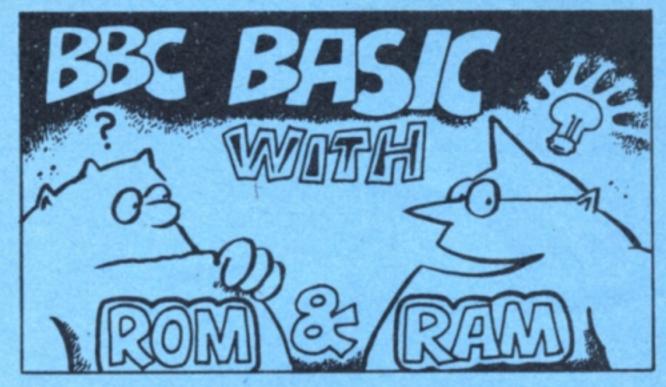
Office hours Mon-Fri 9-5pm Sat. 10-4pm

Please make cheques & PO payable to Turbosoft

Orders under £5 please add 50p per item. Over £5 p&p FREE in UK. Elsewhere please add £1.50 per item.

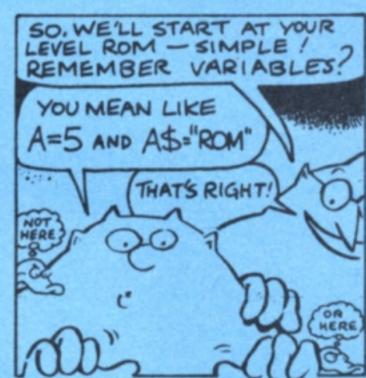
N.B. Please state clearly mode of computer & also cassette or disc when ordering

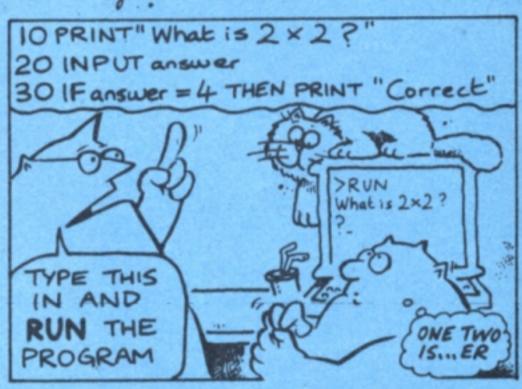
Let's Compute Nov. 90



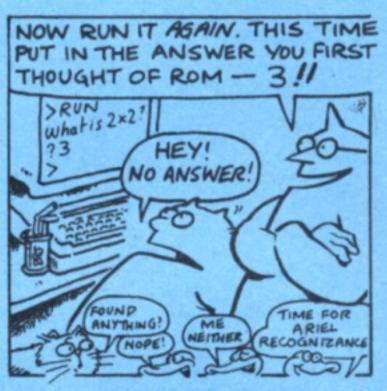




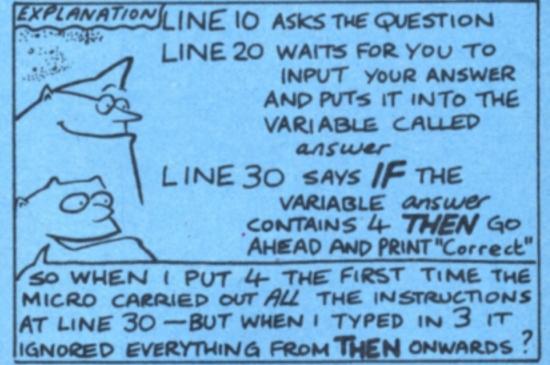


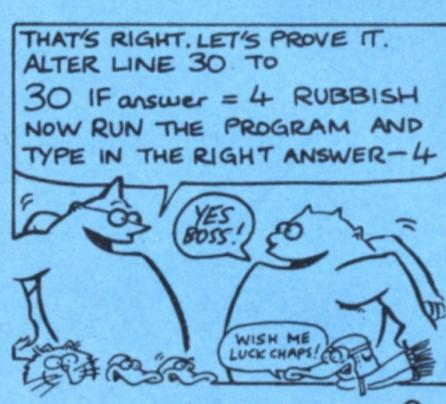


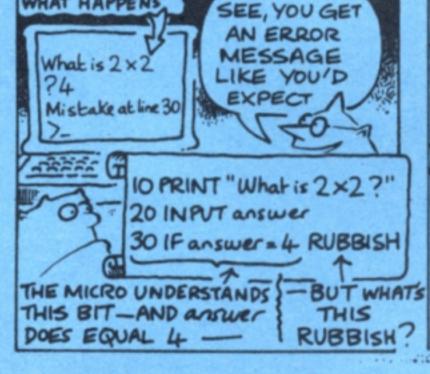


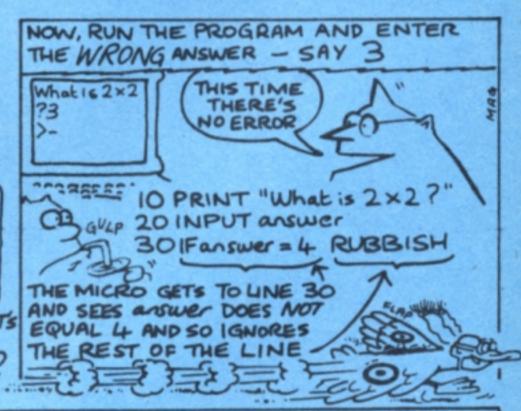


WHAT HAPPENS

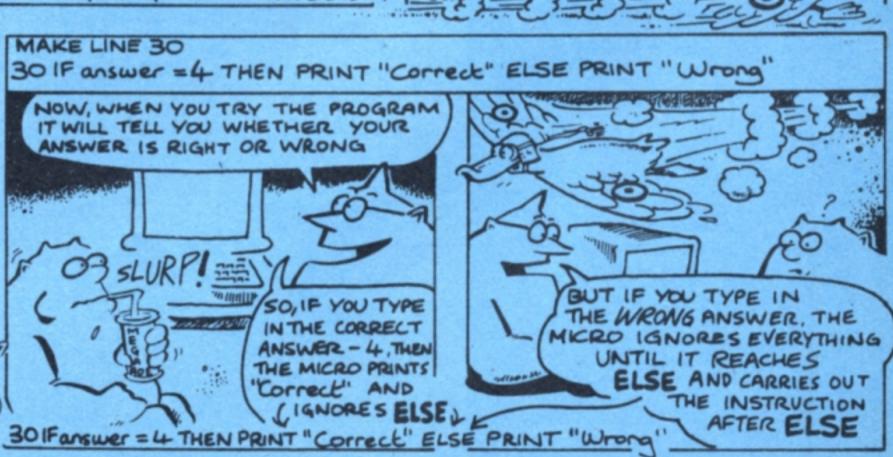






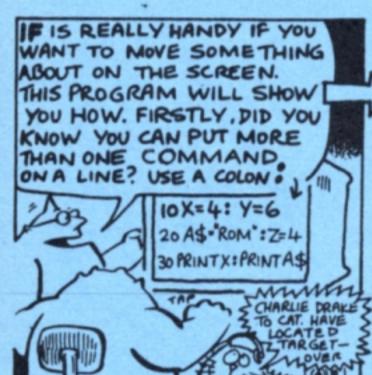


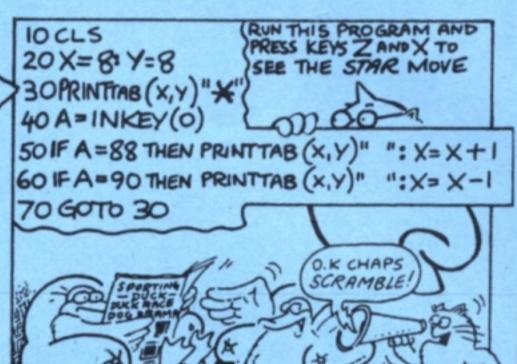


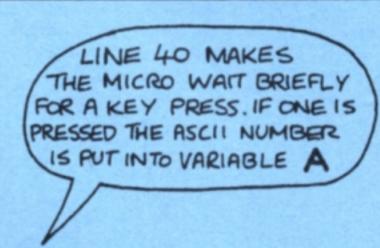




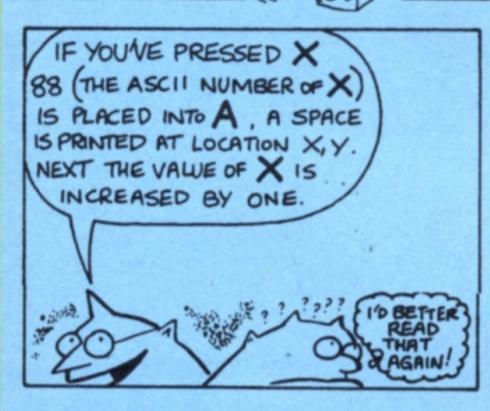




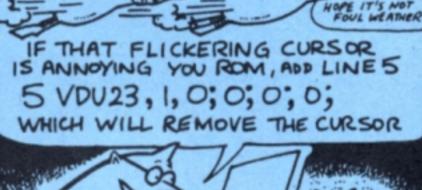




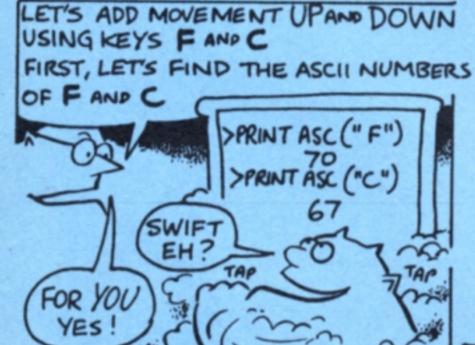
NOW THEN -INES 50 AND 60 ARE THE IMPORTANT ONES

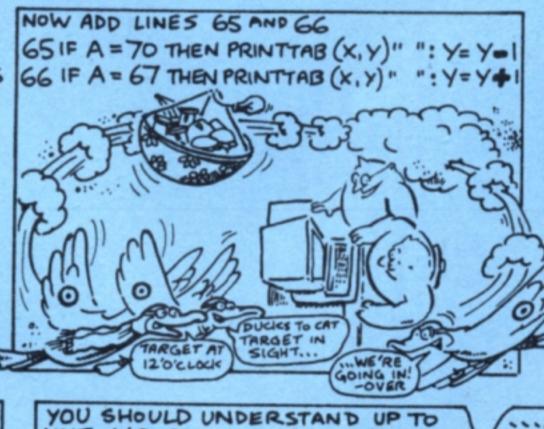




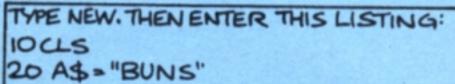












20 Pt- 10015

30 B\$= "CRISPS"

40 PRINT "Would you like some " A\$ 50 PRINT "Press 1 for YES \$ for NO"

60 INPUT choice A

70 PRINT "Would you like some "B\$ 80 PRINT "Press 1 for YES, \$ for NO"

90 INPUT choice B

100 |FchoiceA = | THEN PRINT"Here's your BUNS ROM" 110 |FchoiceB= | THEN PRINT "Here's your CRISPS ROM"

120 IF choice A = 1 AND choice B = 1 THEN PRINT "YOU PIG ROM!"
130 IF choice A = \$\phi\$ AND choice B = \$\phi\$ THEN PRINT "Not hungry then!"

RAIST 33333377739,

BUNS ROM"

CRISPS ROM"

CRISPS ROM!

NT "YOU PIG ROM!"

NT "Not hungry then!"

CRISPS WAR THE ONLY

TO BY NOW. THE ONLY

LINE 110 BY NOW. THE ONLY

DIFFERENCE AT LINES 120 AND 130

LINE 110 BY NOW. THE ONLY

DIFFERENCE AT LINES 120 AND 130

LINE 110 BY NOW. THE ONLY

PREPARE

FREPARE

FOR DROP!

NT "YOU PIG ROM!"

NT "Not hungry then!"

TO BY NOW. THE ONLY

PREPARE

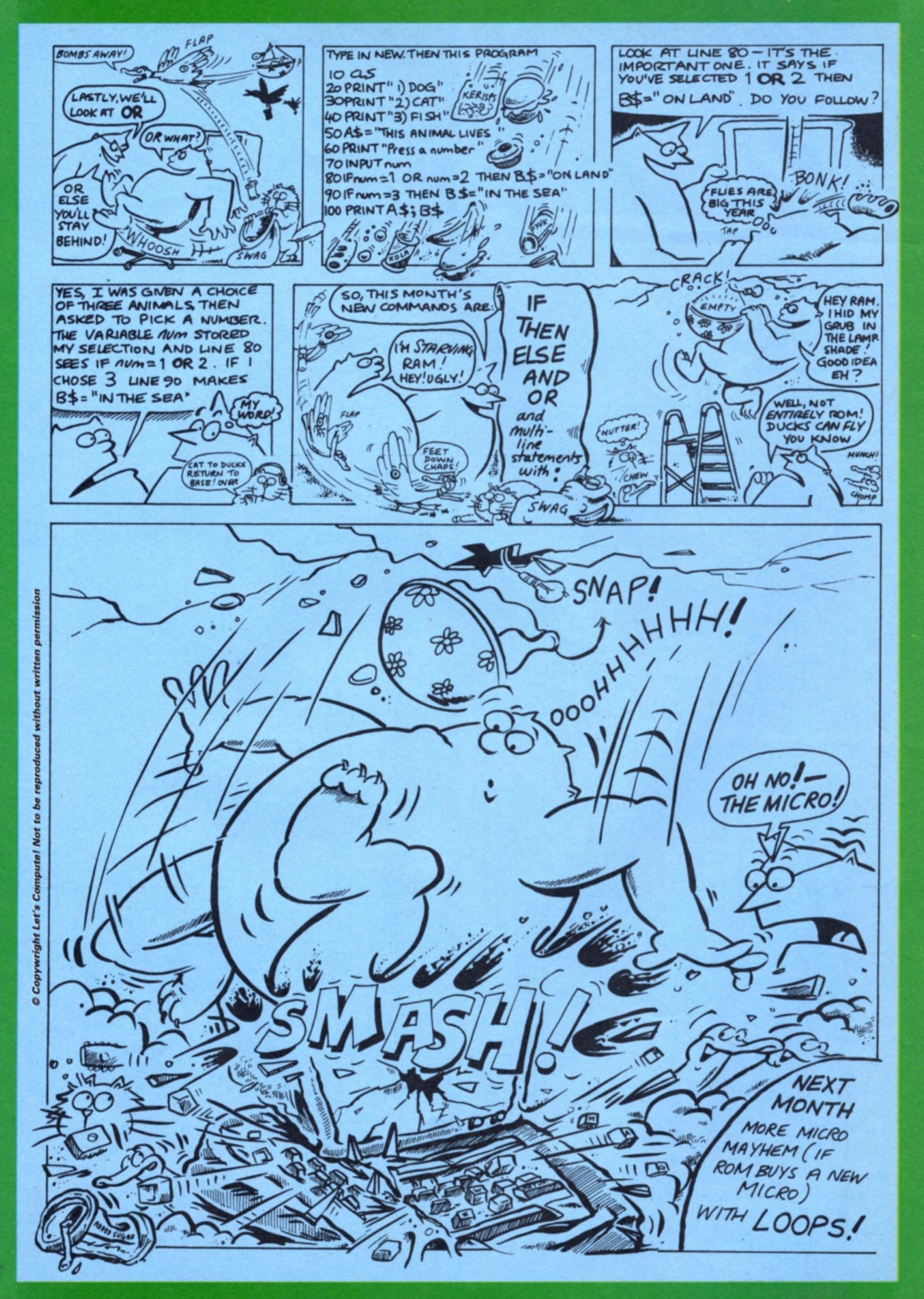
FOR DROP!

TO BY

THE ONLY

HAS TO HAVE 1 STORED IN IT
AND VARIABLE CHOICEA HAS TO
HAVE 1 STORED IN IT IN ORDER
TO CARRY OUT THE INSTRUCTION
PRINT" YOU PIG ROM! "







Gadget shop proprietor Mike Gook builds a unique electronic game...

One of the hardest things in life is getting the right amount of sauce out of a bottle. The secret is in the shaking. If you do it well you will ALWAYS be able to get the exact amount of sauce you need.

So this month's gadget is a sauce bottle shaking simulator. With it you can play *The Great Sauce Bottle Game*. And you can use it to practice for when you want to shake a real bottle!

It's a novel electronic game. You'll find it great fun as as a challenge at a party.

It's also an ideal novelty attraction at a fund-raising event. You can use it to find the best sauce shaker around.

We are going to use a mercury tilt switch like the one shown in the photograph. When it is tilted, a drop of mercury moves over to one end and forms a circuit between two wires.

If the switch is connected to a computer we can find out which way it is tilted. This can have many uses as we shall see later in the Gadget Shop.

But this month we are going to use one in a rather unique way.

If you shake the switch the mercury will bounce about from one side to the other. Your computer can work out how long it stayed at the contact end of the tube. And

this forms the basis of our game.

The idea is that if the contact time for a shake is the same as the previous shake you get a point.

You have to win as many points as you can in a given number of shakes.

The wiring is shown below. The parts can be ordered using the coupon on the right.

You will also need the connector from our first visit to the Gadget Shop. If you haven't got one the extra parts can be ordered on the same coupon.

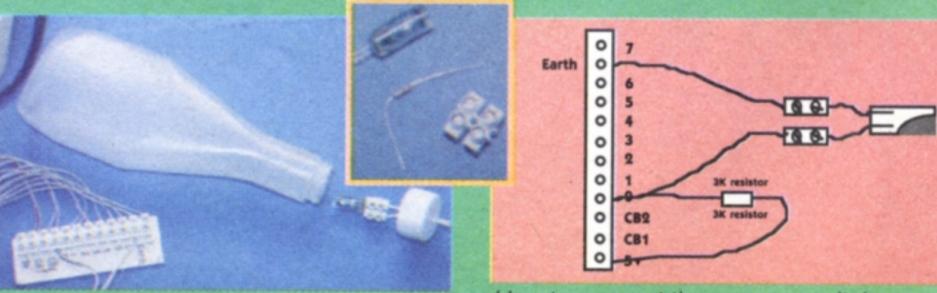
The program printed here controls the game using a BBC Micro. It allows 100 shakes and checks how many times a shake was the same speed as the previous one.

Listings for other computers are available – see the panel below.

Rather than just shaking the switch, it's best to either attach it to a cardboard bottle or put it inside a real bottle. It can be fixed to the side with a double-sided sticky pad.

You can alter the program to make it even more fun. How about adding graphics of a sauce bottle with dobs of sauce flying about?

If you write a good one send it in. If we print it we'll send you a Let's Compute! baseball cap.



How to connect the mercury switch

IN THE SHOP SOON: . AUTO MONEY BOX





- 10 MODE 7
- 20 PRINT"The sauce bottle game"
- 30 PRINT"From the Gadget Shop"
- 40 PRINT"By Mike Cook"
- 50 PRINT"Shake at a stedy rate to scor
- 60 SM%=100
- 70 REPEAT
- 80 PRINT TAB(0,11); SPC(20)
- 90 PRINTSPC(24)
- 100 SL%=0
- 110 SCORE%=0
- 120 FOR SN%=0 TO SM%
- 130 PRINTTAB(0,20); SM%-SN%; Shakes lef
- t"; SPC(5)
 - 140 TIME=0
 - 150 REPEAT

- 160 A%=?&FE60
- 170 UNTIL (A% AND 1)=0
- 180 S%=TIME
- 190 IF S%=SL% THEN SOUND 1,-15,130+SCOR
- E%,1:SCORE%=SCORE%+1
 - 200 SL%=S%
 - 210 REPEAT
- 220 A%=?&FE60
- 230 UNTIL (A% AND 1)
- 240 NEXT
- 250 PRINTTAB(0,20); "The bottle is empty
- 260 PRINTTAB(0,11); "You scored "; SCORE%
- 270 PRINT"Press any key to repeat"
- 280 AS=GETS
- 290 UNTIL FALSE

IS THIS YOUR COMPUTER?

BBC Micro: Use the program above.

Archimedes and BBC A3000: You need an i/o podule. The program also needs to be changed. Replace Lines 160 and 220 with:

SYS "OS Byte", 150, 860 TO ,, A%

Note that the two commas after the TO are essential.

Electron: You need a Plus One and User Port expansion – available from Pres (0276 72046). The game and program work as they are described above except that the memory location which is accessed by the User Port is &FCB0. So wherever you see &FE60 in the program you use &FCB0

Spectrum: You need an Interface 1 and the gadget connects to the joystick port*.

Amstrad CPC, Commodore 64/128, Amiga and ST: The gadget connects to the joystick port*.

* The full assembly instructions are in Gadget Shop Pack 2. The short Basic routine to operate the gadget will be supplied when you order it.

Warning

Mercury is safe in sealed containers like these switches and thermometers. But it can be dangerous. It is poisonous and even touching it with your bare hands can absorb small amounts into your bloodstream.

The mercury in these switches is in a very tough resin casing. It will not

accidentally break. But never crush or

saw it open.

WEATHER STATIONS



☐ Mecury switch + pull up resistor + screw connector £2

You'll also need Pack 1 - the User Port connector cable:

- 20 way IDC plug, length of 20 way ribbon cable, 12 way chock block, cardboard base, 2 foam sticky pads PLUS 2 spare connectors and a resistor£1.99

 As above but with IDC plug
- ready connected ...£2.49

 As above but with connector for Master Compact in place of IDC plug ... £3.99
- As above but with connector for joystick port of Spectrum, Amstrad CPC, Commodore 64/128, ST or Amiga in place of IDC plug. Basic program and instructions will also be supplied ... £3.99

Please state your type of computer:

Educational establishment orders accepted.

Make cheques payable to Musbury Consultants and send to: Musbury Consultants, 8 Fairhill, Helmshore, Rossendale, Lancs BB4 4JX

Name	
Address	

Post code.....



As bonfire night approaches, here's a game to get you in the mood.

It's our special version of Hangman. On your screen is a picture of a bonfire. And the words you have to guess all have a firework theme.

Just type in the listing. Then SAVE it and RUN it.

The dashes that appear on the screen show you the length of the word you have to guess. Press any letter and see what happens.

If it's in the word it will appear in the correct place in the row of dashes.

But if you're wrong? The bonfire will start building up from the bottom of the screen.

Try to guess all the letters in the word before the picture is complete.

The program has been written so that you can easily change it. Look at Lines 550 to 700.

They draw the picture out of letters – just like they are in our Alphabet Artist contest. You can put any picture you want in the program. It must be 16 lines high and no more than 25 letters long.

If your computer has special features you can use them. For instance, C64 owners could use the graphic characters. BBC Micro owners could design a colourful Mode 7 picture.

If you can define other special characters on your computer you can draw the picture from your own shapes.

As well as putting your own pictures in the game, you can also use your own words. Put them in DATA statements like Lines 720 to 740.

You can have as many words as the memory of your computer will allow. Just make sure that you leave the line that says DATA "EOF" at the very end of the program.

At the moment it's Line 750. You can give it a higher number if you want.

So type it in, play it, change it and play it again.

You'll have hours of fun with this one!



```
10 REM BONFIRE HANGMAN
   20 REM (c) Let's Compute!
   30 LET X=RND(-TIME)
   40 DIM w$(500)
   50 LET c=0:LET E$="EOF"
   60 LET c=c+1
   70 READ w$(c)
  80 IF w$(c)<>E$ THEN GOTO 60
   90 LET numwrd=c-1
  100 LET XS=w$(RND(numwrd))
 110 LET c$=X$
 120 LET wrg=0
 130 LET lgth=LEN(X$)
 140 LET g=1
 150 LET gap=(20-lgth)/2
 160 CLS
 170 LET X=26:LET Y=1:GOSUB 500:PRINT "
TRIED"
 180 LET X=gap:LET Y=17:GOSUB 500:PRINT
STRING$(lgth,"-")
 190 LET ok=0
 200 LET X=3:LET Y=19:GOSUB 500:PRINT "
This is move ";g
 210 PRINT:PRINT"
                    PRESS A LETTER";
 220 GOSUB 510
 230 LET g=g+1
 240 FOR c=1 TO lgth
 250 IF L$<>MID$(X$,c,1) THEN GOTO 290
 260 LET X$=LEFT$(X$,c-1)+" "+MID$(X$,c
+1)
```

```
270 LET X=gap+c-1:LET Y=17:GOSUB 500:P
RINT LS
  280 LET ok=-1
  290 NEXT c
  300 IF ok=0 THEN LET X=28:LET Y=3+2*wr
g:GOSUB 500:PRINT L$
  310 IF X$=STRING$(lgth," ") THEN GOTO3
  320 IF ok=-1 THEN GOTO 190
  330 LET wrg=wrg+1:GOTO 370
 350 LET X=5:LET Y=17:GOSUB 500:PRINT "
WELL DONE"
  360 GOTO 450
 370 LET X=0:LET Y=16-2*wrg:GOSUB 500
 380 IF wrg=8 THEN GOTO 410
 390 ON wrg GOSUB 690,670,650,630,610,5
90,570
  400 GOTO 190
 410 GOSUB 550
  420 LET X=1:LET Y=17:GOSUB 500:PRINT "
   HARD LUCK
  430 PRINT:PRINT" THE WORD WAS "
 440 PRINT SPC((18-LEN(c$))/2)c$; SPC((1
8-LEN(c$))/2)
                ANOTHER GO? ";
 450 PRINT "
 460 GOSUB 510
 470 IF L$="Y" THEN GOTO 100
 480 IF L$<>"N" THEN GOTO 460
 490 CLS:END
```

500	PRINTTAB(X,Y);:RETURN
	LET L\$=GET\$
520	IF L\$>"Z" THEN LET L\$=CHR\$(ASC(L\$)
-32)	
530	RETURN
540	REM Picture by Colin Steele
	PRINT " O"
560	PRINT " /a_ *"
	PRINT "* I"
	PRINT " L *"
	PRINT " ##*"
600	PRINT "*##** *"
610	PRINT " # #* *"
620	PRINT "##### *"
630	PRINT "### # ** *"
640	PRINT " ## # * 00"
650	PRINT "#### ###* <>"
660	PRINT "# ###### ** <<<###"
670	PRINT "### ### ## * * < ####"
680	PRINT "# ### # # ** ####"
690	PRINT "###### ## #* * II"
700	PRINT "# ### ## ### ** II"
710	RETURN
720	DATA"BONFIRE", "FIREWORK", "SPARKLER
	EACLE", "APPLES", "ROCKET"
	DATA "CHESTNUT", "GUY", "GUNPOWDER",
	","CANDLE","MATCHES"
	DATA "BANGERS", "FUN", "DISPLAY"
750	DATA "EOF"

IS THIS IS YOUR COMPUTER?

BBC Micro/Electron/ Archimedes

The listing works as shown

Amstrad CPC

Change the following lines:

30 RANDOMIZE TIME

100 LET X\$=w\$(INT(RND*numwrd+1))

500 LOCATE X+1,Y+1: RETURN

510 LET L\$="":WHILE L\$="":LET L\$=INKEY

\$:WEND

ST(Stos)/Amiga(Amos)

Change the following lines:

30 KEY OFF: MODE 0: LET x=RND(TIMER)

100 LET X\$=w\$(RND(numwrd-1)+1)

440 PRINT SPACE\$((18-LEN(c\$))/2)c\$; SPA

CE\$((18-LEN(c\$))/2)

500 LOCATE x,y:RETURN

510 LET L\$=INPUT\$(1)

Amiga: Use CLS instead of MODE Ø

C64/128

Enter the program in capitals.
Change or add the following lines:

25 FOR N=1 TO 20:DASH\$=DASH\$+"-":SKIP \$=SKIP\$+" ":NEXT 100 LET X\$=w\$(INT(RND(0)*NUMWRD+1)) 160 PRINT CHR\$(147) 180 PRINT LEFT\$(DASH\$, LGTH) 310 PRINT LEFT\$(SKIP\$, LGTH) 340 PRINT CHR\$(147) 440 PRINT LEFT\$(SKIP\$, (18-LEN(c\$))/2); c\$;LEFT\$(SKIP\$, (18-LEN(c\$))/2) 490 PRINT CHR\$(147):END: 500 POKE 211, X:POKE214, Y:SYS58732:RETU RN 510 GET L\$:IF L\$="" THEN GOTO 510

PC (GW-Basic)

Change the following lines:

30 RANDOMIZE TIMER

100 LET X\$=w\$(INT(RND*numwrd+1))

500 LOCATE X+1,Y+1: RETURN

510 LET L\$="":WHILE L\$="":LET L\$=INKEY

\$:WEND

Spectrum

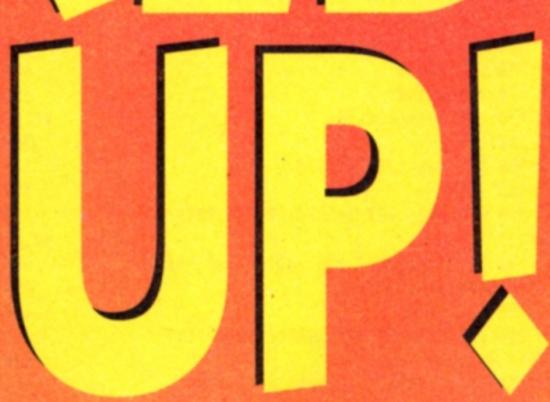
Use 48k mode. Change or add the following lines:

30 RANDOMIZE 40 DIM w\$ (500,16): DIM W(500): DIM E \$(16): DIM S\$(16) 45 LET S\$=" ": LET B\$="-----70 READ XS: LET w\$(c)=X\$: LET W(c)=LE N (XS) 100 LET c= INT (RND*numwrd+1): LET X\$= W\$(c) 130 LET lgth=W(c) 180 LET X=gap:LET Y=17:GOSUB 500:PRINT B\$(1 TO lgth) 250 IF L\$<>X\$(c) THEN GOTO 290 260 LET X\$=X\$(1 TO c-1)+" "+X\$(c+1 TO 310 IF X\$=S\$ THEN GOTO340 390 LET LINE=710-20*wrg: GO SUB LINE 440 PRINT S\$(1 to (18-lgth)/2);c\$ 490 CLS:STOP 500 PRINT AT Y,X;:RETURN 510 LET LS=INKEYS: IF LS="" THEN GOTO 510 520 IF L\$>"Z" THEN LET L\$=CHR\$(CODE(L\$)-32)

70 60 40 30 10 10

ALL OMED

Save money with the Safe Scientist - as he shows a no-waste way of mixing chemicals





This month we're up to our armpits in acids and alkalis. As a scientist would say, we're working on neutralisation.

Your task? To find out just how much alkali will react perfectly with a quantity of acid.

But because you're using a computer and not real chemicals, you won't be pouring any down the plughole. Which could be quite a saving!

Start by keying in the program. When you've done that, SAVE it and RUN it.

After a title page, you will be asked how much acid you want to use. You can also choose the strength of acid and alkali.

Now the experimenting starts.

The acid is shown in a beaker. It's coloured red because it has a litmus indicator in it. You slowly add alkali from a device called a burette. This process is called titration.

The alkali reacts with the acid to produce a salt. When the right amount of alkali has been added the mixture will turn purple.

At this point stop adding alkali. If you continue the liquid will turn blue. This means you have ruined it.

The idea is to find a rule so that you can always work out how much alkali you will need. Then, perform the experiment to see if you're right.

If you can see the patterns in processes like this you are well on the way to becoming a good scientist.



NATIONAL CURRICULUM AREAS COVERED

This program helps
with section seven Making New Materials.
Also, because it is in
the form of an
investigation, it is an
Exploration of Science.
This is the first
attainment target.

NEXT
MONTH
The Safe
Scientist
turns his
attention to
science and
health

77,144,N%:NEXT

10 MODE6 20 *FX11,0 30 PROCsetup **40 REPEAT** 50 MODE6 60 VDU23;8202;0;0;0;0; 70 PROCvar 80 MODE2 90 PROCdraw 100 PROCdotheexpt 110 MODE6 120 PROCtable 130 UNTILO 140 END 150 DEFPROCsetup 155 *FX15 160 PRINTTAB(4,1)"ACIDS, ALKALIS AND I NDICATORS"TAB(4,2)" 170 VDU23,224,0,0,24,60,60,24,0,0 180 qacid%=30:sacid%=1:salkali%=2 190 PRINTTAB(4,22)"Press Space to cont inue" 200 REPEATUNTILINKEY-99

NDICATORS"TAB(4,2)"

170 VDU23,224,0,0,24,60,60,24,0,0
180 qacid%=30:sacid%=1:salkali%=2
190 PRINTTAB(4,22)"Press Space to cont
inue"
200 REPEATUNTILINKEY-99
210 ENDPROC
220 DEFPROCdraw
230 VDU23;8202;0;0;0;0;
240 MOVE200,600:DRAW200,1000
250 MOVE200,600:DRAW200,1000
260 MOVE200,600:DRAW220,580
270 MOVE200,600:DRAW220,580
280 MOVE220,580:DRAW220,580
280 MOVE240,580:DRAW240,500
300 MOVE140,300:DRAW140,100:DRAW340,10
0:DRAW340,300
310 VDU5:FORN%=600T0950STEP50:MOVE50,N
%+16:PRINT;(N%MOD600)/5

320 MOVE190, N%: DRAW200, N%: NEXT: VDU4
330 VDU5: FORN%=9T012: VDU19, N%, Ø; Ø; : GCO
LØ, N%
340 MOVE205, 340+(N%-9)*40: PRINTCHR\$224
:NEXT: VDU4
350 VDU19, 8, 1; Ø;
360 GCOLØ, 8

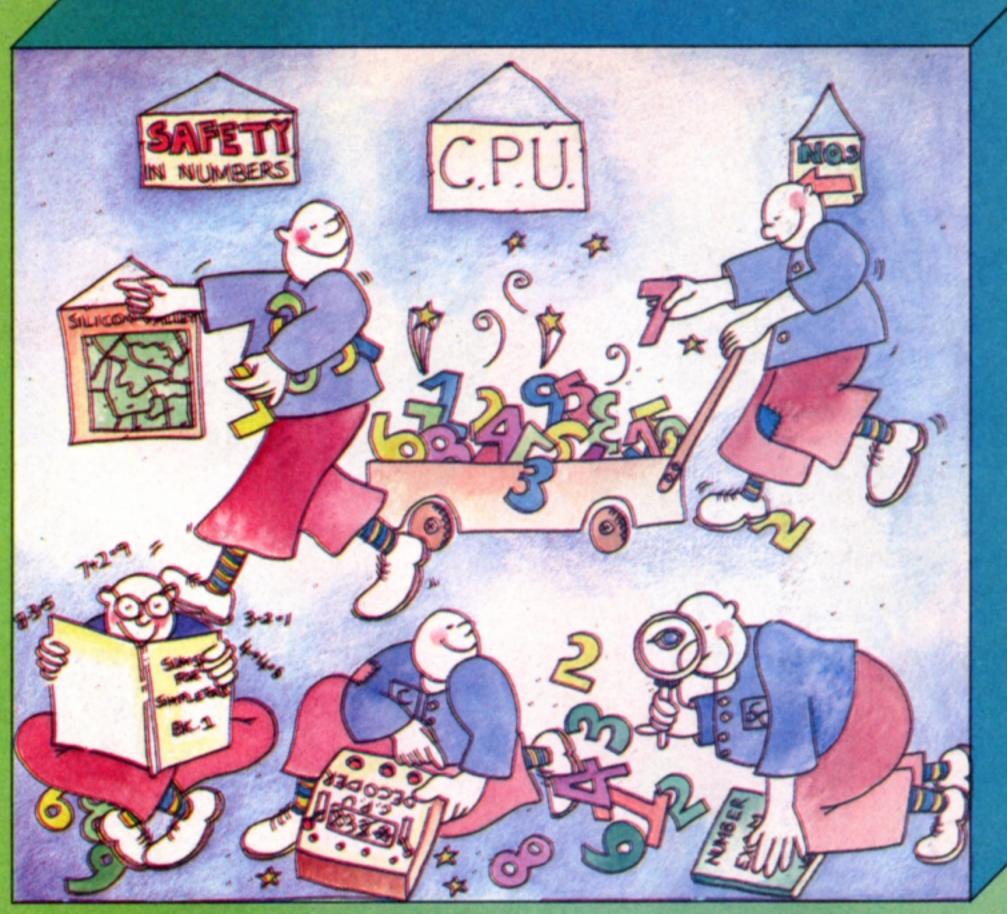
370 FORN%=104T0104+qacid%*2 STEP4:PLOT

:DRAW232,540 390 GCOL0,7 400 MOVE200,950:DRAW260,950 410 L%=qacid%*2+104:H%=950 420 ENDPROC 430 DEFPROCdotheexpt 440 VDU28,8,26,19,2:COLOUR132:CLS:COLO UR3 450 PRINT''"Press Space"''"to add"''"a lkali"'''"Press"''"Return to"''"end the "'"experiment" 460 REPEAT 470 IF INKEY-99 PROCdrop 480 UNTILH%=600 OR INKEY(0)=13 490 ENDPROC 500 DEFPROCdrop 510 VDU19,13,0;0; 520 FORN%=12T09 STEP-1 530 VDU19, N%, 6;0; 540 VDU19, N%, 0;0; 550 NEXT 560 VDU19,13,7;0; 570 GCOLØ, 8:PLOT77, 144, L%: L%=L%+1 580 GCOLØ, Ø: MOVE208, H%: DRAW252, H%: H%=H %-5 590 GCOL0,7:MOVE208,H%:DRAW252,H% 600 galk%=(950-H%)DIV5 610 IF qalk%*salkali%=qacid%*sacid% VD U19,8,5;0;:result\$="You have neutralised the acid and alkali" 620 IF qalk%*salkali%>qacid%*sacid% VD U19,8,4;0;:result\$="You have added too m uch alkali." 630 ENDPROC 640 DEFPROCVar 650 PRINTTAB(6,2)"SET THE VARIABLES"TA B(6,3)" 660 PRINTTAB(2,6)"How much acid?"TAB(2 ,8)"Strength of acid?"TAB(2,10)"Strength of alkali?" 670 PRINTTAB(24,6); qacid%; TAB(24,8); sa cid%; TAB(24,10); salkali% 680 N%=6

380 GCOLØ, 13: VDU19, 13, 7; Ø; : MOVE228, 540

690 REPEAT 700 *FX15,0 710 PRINTTAB(24,N%); SPC(2) 720 PRINTTAB(4,16) "Press Space to sele ct variable" 730 PRINTTAB(4,19)"Use < and > to chan ge values" 740 PRINTTAB(4,22) "Press Return to con tinue" 750 IF INKEY-99 N%=N%+2 760 IF N%>10 N%=6 770 IF N%=6 AND qacid%<30 AND INKEY-10 4 qacid%=qacid%+1 780 IF N%=6 AND gacid%>5 AND INKEY-103 qacid%=qacid%-1 790 IF N%=8 AND sacid%<3 AND INKEY-104 sacid%=sacid%+1 800 IF N%=8 AND sacid%>1 AND INKEY-103 sacid%=sacid%-1 810 IF N%=10 AND salkali%<3 AND INKEY-104 salkali%=salkali%+1 820 IF N%=10 AND salkali%>1 AND INKEY-103 salkali%=salkali%-1 830 PRINTTAB(24,6);qacid%;TAB(24,8);sa cid%;TAB(24,10);salkali% 840 TIME=0:REPEATUNTILTIME>20 850 UNTILINKEY(0)=13 860 result\$="You have not added enough alkali.":qalk%=0 870 ENDPROC 880 DEFPROCtable 890 PRINTTAB(6,2)"ACIDS, ALKALIS AND I NDICATORS"TAB(6,3)" 900 PRINT''"Quantity of acid = ";qacid 910 PRINT' "Strength of acid = "; sacid 920 PRINT''"Quantity of alkali=";qalk% 930 PRINT''"Strength of alkali=";salka li% 940 PRINT' result\$ 950 PRINTTAB(4,22)"Press Return to con tinue":REPEATUNTILINKEY(0)=13 960 ENDPROC





Last month we looked at several input devices. They all have one thing in common: They work by sending pulses of electricity to the CPU (Central Processor Unit).

But how does the CPU itself do its magic?

There are two main parts to a CPU: The Control unit and the Arithmetic unit. The panel below helps to explain what they do.

The easiest way to understand how the two parts work together is to think of them as a man using a calculator. The man is the Control unit. The calculator is the Arithmetic unit.

Suppose that - just like the CPU -

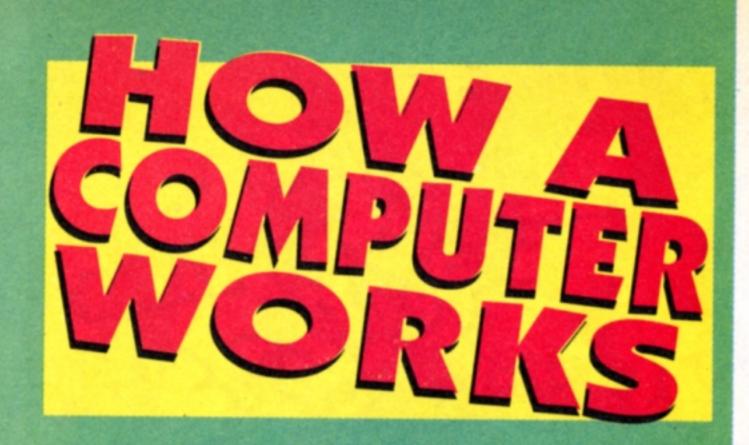
the man has to cary out some instructions for you. The panel shows both he and a CPU would do the simple sum 4 + 5.

You may be wondering how a computer does things with letters. We've already seen that everything in a computer is coded and represented by numbers.

Remember, the letter A is represented by 65. So the Control unit changes the A into the number 65. It can now be dealt with by the Arithmetic unit.

And once the Control unit has finished with the numbers they can be passed to an output device. We'll look at those next month.

MAN	CPU
Read first instruction (add).	Read first instruction.
Understand first instruction.	Decode first instruction.
Shout for help if it's not understood.	Report error.
Gather together any information needed to carry out instruction (the numbers to add – 4 and 5). Then key them into the calculator.	The Control unit passes the instruction and numbers to the Arithmetic unit.
Press the = button on the calculator.	The Control unit tells the Arithmetic Unit to work it out.
The answer is displayed on the calculator for the man to see.	The Arithmetic unit tells the Control unit it has finished it has finished.
The man writes the answer down for you to read when you're ready.	The Control unit tells the Arithmetic unit to send the answer to the computer's memory.
You read the answer. We'll be looking at these next month	The answer used in another part of the program or sent to an output device.



BINARY BITS

Counting to seven in binary numbers is easy. Remember last month we said it was similar to counting in weeks, fortnights and months.

Seven weeks can be written as:

1 month + 1 fortnight + 1 week

So, in binary, we would write the decimal number seven as 111.

That's 1 Four + 1 Two + 1 Unit. But how do we write eight in binary?

We can't have 112 because, in binary, we can only use ones and zeros. It's similar to when we reach 99 in the decimal system - we can't go up to ninety-ten.

In that case Hundreds come to the rescue and we go 99, 100.

In our binary example we bring in the Eights. So after seven – 111 – we get 1000.

Now with our Eights, Fours, Twos and Units we can count up to 15.

For example,
13 becomes 1
Eight + 1 Four +
0 Twos + 1 Unit
- 1101. On the
right we show
all the binary
numbers up to

15.

Can you think how the decimal number will be written binary? We'll give you the answer next month. And we'll see why it's more easy to add numbers in binary than in

Decimal (Hundreds, Tens and Units)	Binary (Eights, Fours, Twos and Units)
HTU	EFTU
0	0
1	1
2	1 0
3	1 1
4	1 0 0
5	1 0 1
6	1 1 0
7	1 1 1
8	1 0 0 0
9	1 0 0 1
1 0	1 0 1 0
1 1	1 0 1 1
1 2	1 1 0 0
1 3	1 1 0 1
1 4	1 1 1 0
1 5	1 1 1 1

NEXT MONTH: We look at how facts and figures are OUTPUT from the computer!



If you like quizzes this program is for you!

There are 750 general knowledge questions for you to try. Each time you find the right answer you can have another turn in the game. Can you defeat the dreadful dragon and save the owner of the Castle?

The program even lets you write your own quizzes and save them on disc or cassette - amaze your friends!

BBC/Electron/Amstrad cass £9.95 Spectrum cassette £8.95 BBC disc (40 or 80 track) £10.95 BBC 3.5" disc £12.95 Amstrad CPC 3" disc £13.95 Spectrum +3 disc £10.95 IBM disc (3.5" or 5.25") £19.95 Amiga/Atari disc £19.95

Prices include VAT and P & P

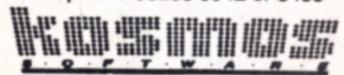
Kosmos are specialist producers of Educational Software designed to help you enjoy learning from your computer over a wide range of subjects.

Write or telephone for a FREE 20-page BROCHURE of our Educational & Leisure software

Please state your computer type

Kosmos Software Ltd, 1 Pilgrims Close, Harlington DUNSTABLE, Beds. LU5 6LX Telephone 05255 3942 or 5406







Mijas Software

The New Issue of 'A Book on C' by Berry And Meekings £11 inclusive.

Small C System £69 (Inclusive of VAT p&p)

Use the Mijas Small C System on the BBC B or MASTER series computers for games, educational and industrial software. Small C programs run up to 12 times faster than in BASIC. Your code is highly portable and can be recompiled to run on the ARCHIMEDES or R140 using the Acorn ANSI C compiler (not supplied) and on many other machines. You can also use the power of the ARCHIMEDES for the rapid development and test of BBC B or MASTER programs. Manuals and post sales support included.

This Small C System produces stand-alone programs with up to 40K of code in ROM and/or MAIN memory. Libraries, extendable by the user, provide memory allocation, multi-mode graphics, file handling, i/o formatting, string handling, and system calls. Full assembler interface.

The system includes the V3.0 Small C compiler & Libraries*, Optimiser, Assembler, Linker, Source-Level Debug, and SHELL. SOURCE CODE is supplied for the compiler and all libraries. Using the MAKE facility and editable makefiles, C code is automatically compiled to assembler source, assembled and then linked with the minimum necessary library code.

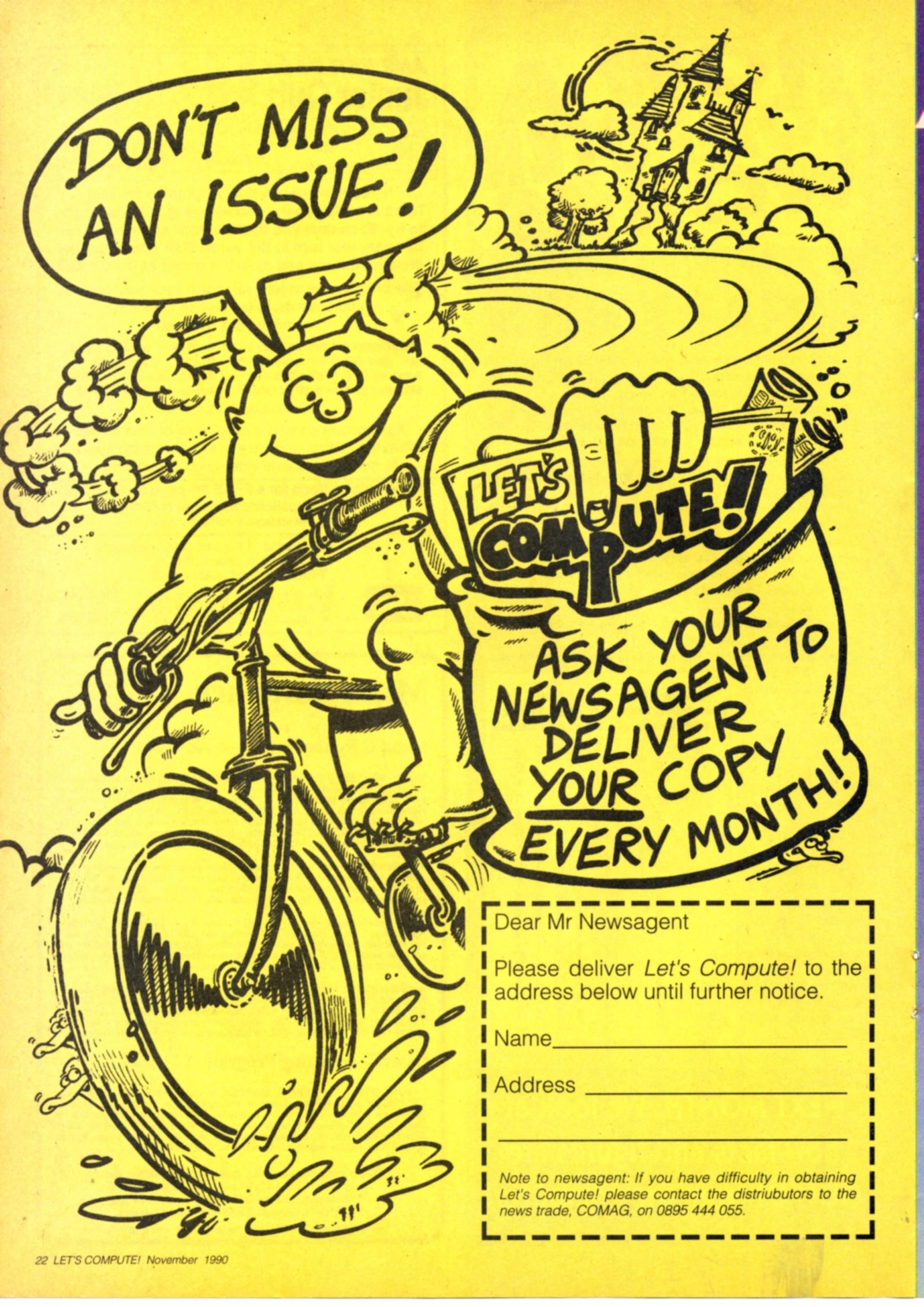
Available for the MASTER series Computers, BBC B+ or B with sideways ram, and ARCHIMEDES. Software supplied on 80T double sided 5.25" or 3.5" ADFS or DFS disk. The ADFS disk contains the SHELL source code. The system is also available for other hardware configurations, including systems for the Mitsubishi MELPS processors, please write for details.

Laser Typesetting Program £23 inclusive

Low cost DTP for any BBC B, MASTER or ARCHIMEDES. Requires an HP Deskjet or Laserjet printer or emulation. Use for letters, booklets, forms and manuals with rules and shading, full multi-font justification, in single or multi-column. Fast printing using the printer's internal fonts. ADFS or DFS disk with rom image, £23 inclusive of vat, p&p. Eprom (avoids the need for sideways ram on BBC B) £7 extra.

Please state your computer system when ordering from:-MIJAS SOFTWARE, Winchester Rd. Micheldever, Winchester, Hants SO21 3DG. Tel 0962 89 352. Official orders, ACCESS and VISA Welcome

*Includes original Small C code supplied at the cost of distribution.



A QUICK PHONE CALL NOW COULD WIN YOU.

Household names Grundig, Hitachi, Sky and Pace combined to bring you the prize of the year - a complete stereo satellite TV system, with EVERYTHING else you need to bring you all-round TV enjoyment! Every item is right up-to-the-minute. Here is the very last word in TV technology . . . all at the touch of a button.

To win the ENTIRE collection all you have to do is make a phone call and answer six simple questions. We've even presented you with a choice of answers! Then give your name and address...and the first correct answer pulled from our electronic sack will be the winner.

One item alone is worth £380 - the new Pace Receiver/Decoder & Dish. It's been hailed as the very last word in satellite technology.

Pace is Europe's largest manufacturer of satellite TV receivers and their SS9000 IRD has just about everything you might need - including a built-in videocrypt decoder for scrambled channels such as Sky Movies. It's all ready to receive the 16 extra channels of the new Astra 1b satellite - giving you 60 channels in all. It even incorporates a VCR timer that lets you pre-select different channels so that they can be recorded unattended! Remote control on-screen graphics make it simplicity to use. The 60cm dish that comes with your prize is made of a stylish black mesh which blends well with any surrounding.

These are the questions:

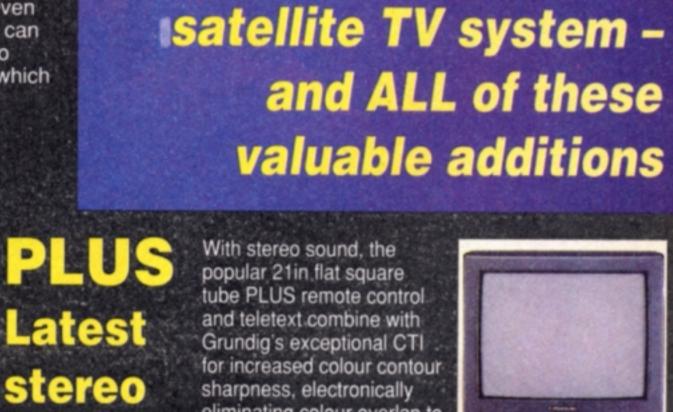
- Who invented the very first TV set? a) Bell in 1900
 - b) Baird in 1926 c) Einstein in 1929
- 2 When did commercial TV start in Great Britain? a) 1955 b) 1969
 - c) 1970
- Which was the first Royal coronation to be screened on TV? a) Elizabeth II b) George VI c) Edward VIII
- ⚠ Who wrote the theme tune to the award winning film, Chariots of Fire? a) Phil Collins b) Mike Oldfield c) Vangelis
- Which star of Wall Street is a famous son of a famous actor? a) Jason Connery b) Kiefer Sutherland c) Michael Douglas
- 6 Mork appeared in Good MorningVietnam. Who is he better known as? a) John Belushi c) Tom Conti b) Robin Williams

PLUS Watch a year of Sky **Movies!**

A year's viewing WORTH £120

Here's a whole year's subscription to the Sky Movie Channel. Would you turn down a date with your favourite Hollywood star in your own home? With prestigious films such as Dangerious Liaisons, Tequilla Sunrise and The Dead Pool already under their belt - future features and releases are very exciting and far too good to miss.





receiver

TV

Grundig ST55-450 WORTH £530

PLUS Latest stereo video recorder

Hitachi VT-M740 WORTH £380

With stereo sound, the popular 21in flat square tube PLUS remote control and teletext combine with Grundig's exceptional CTI for increased colour contour sharpness, electronically eliminating colour overlap to give you a much crisper picture. The sound quality is

The new

sleek design

of this two-

speed front-

remote control

loading

excellent with 2x8 watts of music power, two lateral wideband speakers and two frontal tweeters. Add to this a stereo base expansion and switchable sound channels and you have the very best in 1991 TV technology.

.. the very latest stereo

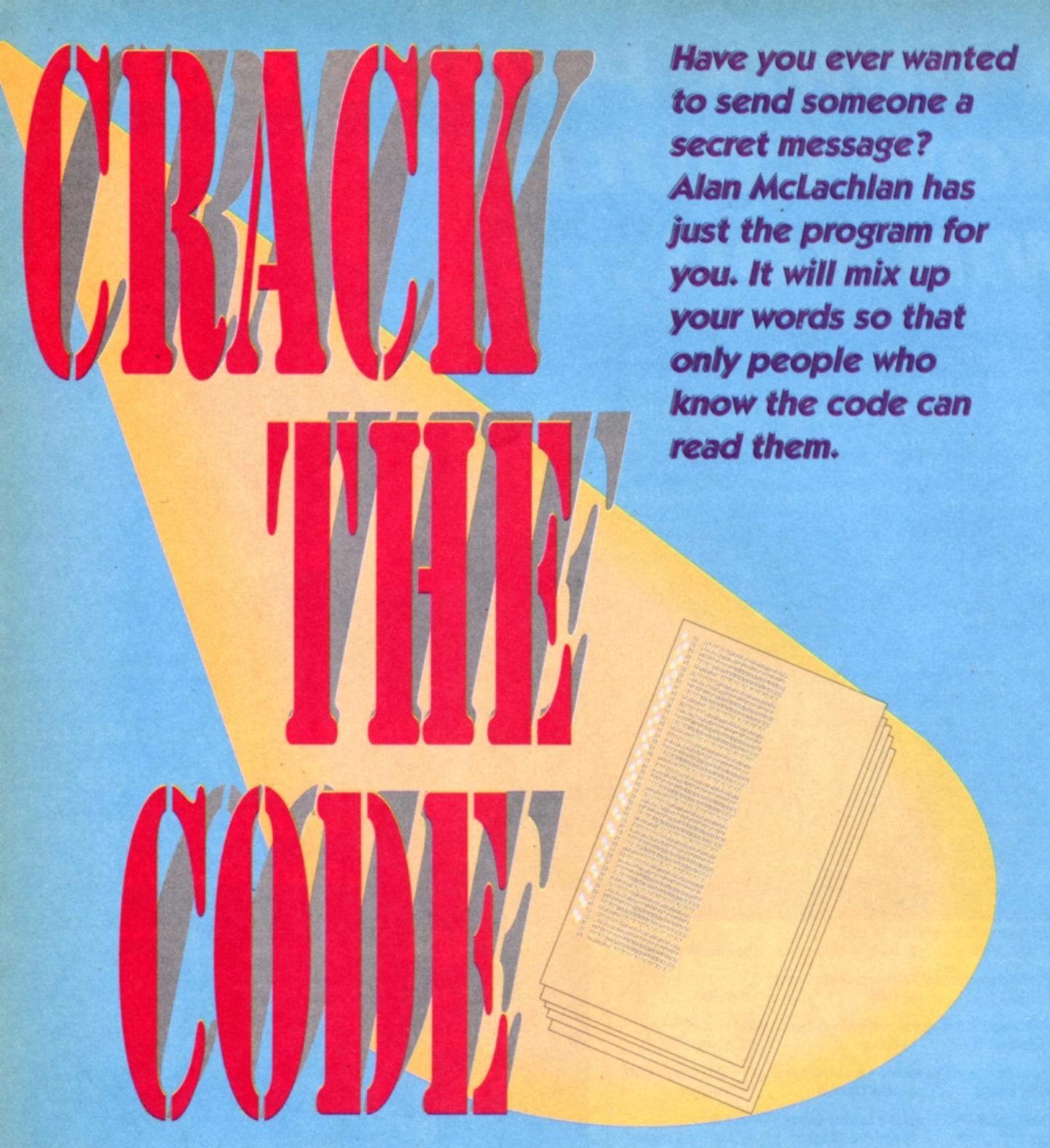
and ALL of these

valuable additions



VCR with four video heads hides a range of features including a title making facility and audio dubbing. You can also have clean still and variable slow motion. PLUS digital auto-tracking enhancing the quality of sound and picture by automatically keeping the heads and tracks aligned. Other new features are the onscreen display facility and demonstration and a child lock - proof against little fingers. This really IS stateof-the-art in video recording.

To enter, simply phone:



Secret agents use a computer program to send top secret messages to each other. Now Let's Compute! readers can do the same.

Using our program, your messages are turned into coded text. The way they are coded depends on a secret number that YOU decide.

Without knowing the secret number it is very difficult for anyone else to read your message. Don't forget it. And only let authorised people know it!

But a program that codes messages is no use unless you have a program to decode them as well. So this program does both.

Type it in, SAVE it and RUN it. The first question you'll be asked is whether you want to code or decode a message. Answer C or D.

Then you'll be asked for your secret code number. This can't be any old number. The panel opposite tell you how to make one up.

If the number you enter is not valid the

computer will inform you. It will also give you some suitable suggestions. And make sure you remember the number – you won't be able to decode your message without it!

Next, just type in your message. It can be up to 255 letters long on most computers (80 on a C64). After you press Return there will be a slight pause and then you will see your words converted into secret code!

Here's what a coded message looks like:

iw\$Xlvxiigkri\$e{wex\$exw\$piri\$wxJ\$\$empi}

Can you crack it? Any coding system can be broken. But you'll discover that the Let's Compute! code is very tricky to break.

If you do discover what the message says, let us know. We'll send a baseball cap to the person who sends us the first correct translation!

THINK OF A NUMBER

The way a message is encoded depends on your secret number. When you make one up there are three rules you must follow:

- It must be six figures long.
- The first five figures must be all the numbers 1 to 5, but they can be in any order.
 - The last figure has to be a number between 0 and 4.

Here are some examples of numbers you can use: 132542543210 543212

HOW THE COMPUTER CODES THE MESSAGE

The computer takes your message and mixes it up. The way it does this depends on the secret number you typed in.

Here's how the the message Hi there Pete is coded using the number 23154

 The message is split into groups of five letters. So our message splits like this:



Note that the space counts as a letter. The number of letters in the last group will sometimes be less than five. That is what has happened here.

Next, the groups of letters are mixed up. The first five numbers of the secret number are used to decide the new order.

So, using the pattern 23152, The first group - Hi th - becomes i Hht.

The last group is not mixed up unless it is exactly five characters long.

The letters are then all changed to letters higher up the alphabet. The last letter of your secret code lets the computer know how much to shift them.

The last number of our example code is 2. So A becomes C, B becomes D and so on. Space and letters at the end of the alphabet become characters such as brackets and commas.

With the shift of two places, our message (i Hht) is changed to k"Jjv.

Here's how the word COMPUTER is coded using several secret numbers:

Code number	Coded word
123450	COMPUTER
123451	DPNQVUFS
543210	UPMOCTER
543212	WROQEVGT

Now for an example you can try for yourself. Use the code 341253 and key this in:

There's a message on your answering machine

The result - in code - is:

huWkh#d*v#vvphd#rjhqrx#|uqv#dzlqhujdf#pklqh

10 REM C	rack the code!	370 LET MS=MS+AS:LET L=L+1:IF AS=CHRS(
	c) Let's Compute!	. 127) AND L>1 THEN LET L=L-2:LET M\$=LEFT\$
30 CLS		(MS,L)
40 DIM P		380 LET X=0:LET Y=4:GOSUB 700:PRINT M\$
	"The Let's Compute! Secret C	;" ":GOTO 360
oder"		390 IF MS="" THEN GOTO 340
	:PRINT:PRINT	400 RETURN
70 GOSUB		410 REM CODE
80 PRINT		420 FOR I=1 TO 6:LET P(I)=VAL(MID\$(N\$,
670	code or becode (C/b) . 8030B	1,1)):NEXT I 430 GOSUB 330:LET M\$=LEFT\$(M\$,L)
	="C" OR A\$="c" THEN GOSUB 410	440 CLS:PRINT "Your message is being c
:60TO 130	- C ON NO- C THEN 00000 410	oded"
	="D" OR A\$="d" THEN GOSUB 490	450 LET S\$=M\$:GOSUB 570:LET C\$=R\$
:GOTO 130		460 CLS:PRINT "Your message:":PRINT:PR
12Ø GOTO9	0	INT M\$
130 PRINT	:PRINT "Do you want to use th	470 PRINT:PRINT"has been coded to:":PR
e program a	gain?":GOSUB 670	INT:PRINT C\$
	="N" OR A\$="n" THEN CLS:END	480 RETURN
	<>"Y" AND A\$<>"y" THEN GOTO 1	490 REM DECODE
30		500 FOR I=1 TO 5:LET P(VAL(MID\$(N\$,I,1
)))=I:NEXT I:LET P(6)=-VAL(MID\$(N\$,6,1))
	umber?":GOSUB670	510 GOSUB 330:LET C\$=LEFT\$(M\$,L)
1/0 11 A3	-"N" OR A\$="y" THEN GOTO 70	520 CLS: PRINT "Your message is being
	="N" OR A\$="n" THEN GOTO 70	
200 DEM C	DECTAL NUMBER	5/0 CLC-DDINT "Your coded massage:"-DP
210 TAPILT	"What is your code number" . N	530 LET S\$=C\$:GOSUB 570:LET M\$=R\$ 540 CLS:PRINT "Your coded message:":PR INT:PRINT C\$
\$	what is your code homber ,n	550 PRINT:PRINT"has been decoded to:":
	N (N\$)<>6 THEN LET FLAG=1:GOTO	PRINT: PRINT MS
280		560 RETURN
230 LET F	LAG=Ø:LET M\$=LEFT\$(N\$,5)	570 REM DO CODE/DECODE 580 LET R\$="": IF L<5 THEN GOTO 640
240 FOR I	= 49 TO 53	580 LET R\$="": IF L<5 THEN GOTO 640
250 IF IN	STR(N\$,CHR\$(I))=Ø THEN LET FL	. 590 FOR I = 0 TO INT((L-5)/5)
AG=1		600 FOR J=1 TO 5
260 NEXT	I	610 LET R\$=R\$+CHR\$(ASC(MID\$(S\$,I*5+P(J),1))+P(6)) 620 NEXT J
270 IF RI	GHT\$(N\$,1)<"0" OR RIGHT\$(N\$,1),1))+P(6))
)>"4" THEN	GOSUB 310:GOTO 210 AG=1 THEN GOSUB310:GOTO210	620 NEXT J
	AG=1 THEN G020B310:G010210	030 NEXT 1 = 5+TNT/1/5)
290 RETUR	RONG NUMBER	640 LET I=5*INT(L/5) 650 IF I <l i="I+1:LET" let="" r\$="R\$+CH</th" then=""></l>
310 CIS.D	RINT "Code number wrong (see	DS(ASC(MIDS(SS I 1))+D(6)).COTO 654
Let's Compu	te!)":PRINT	660 RETURN
320 RETUR		670 REM GET
330 REM M		680 A\$=GET\$
	RINT "Type in your message"	690 RETURN
350 LET M	RINT "Type in your message" \$="":LET L=0	700 REM TAB(X,Y)
360 GOSUB	670: IF AS=CHR\$(13) THEN GOTO	710 PRINT TAB(X,Y);:RETURN
390		

. 127) AND L>1 THEN LET L=L-2:LET MS=LEFTS
(M\$,L)
380 LET X=0:LET Y=4:GOSUB 700:PRINT MS
;" ":GOTO 360
390 IF MS="" THEN GOTO 340
400 RETURN
410 REM CODE
420 FOR I=1 TO 6:LET P(I)=VAL(MIDS(NS,
I,1)):NEXT I
430 GOSUB 330:LET MS=LEFTS(MS,L)
440 CLS:PRINT "Your message is being c
oded"
450 LET S\$=M\$:GOSUB 570:LET C\$=R\$
460 CLS:PRINT "Your message:":PRINT:PR
INT MS
470 PRINT:PRINT"has been coded to:":PR
INT: PRINT C\$
480 RETURN
490 REM DECODE
500 FOR I=1 TO 5:LET P(VAL(MID\$(N\$,I,1
)))=I:NEXT I:LET P(6)=-VAL(MID\$(N\$,6,1))
510 GOSUB 330:LET C\$=LEFT\$(M\$,L)
520 CLS: PRINT "Your message is being
decoded."
530 LET S\$=C\$:GOSUB 570:LET M\$=R\$
540 CLS:PRINT "Your coded message:":PR
INT:PRINT C\$
550 PRINT:PRINT"has been decoded to:":
PRINT: PRINT M\$
560 RETURN
570 REM DO CODE/DECODE
580 LET R\$="": IF L<5 THEN GOTO 640
. 590 FOR I = 0 TO INT((L-5)/5)
600 FOR J=1 TO 5
610 LET R\$=R\$+CHR\$(ASC(MID\$(S\$,I*5+P(J),1))+P(6))
620 NEXT J
630 NEXT I
640 LET I=5*INT(L/5)
650 IF I <l i="I+1:LET" let="" rs="RS+CH</th" then=""></l>
R\$(ASC(MID\$(S\$,1,1))+P(6)):GOTO 650
660 RETURN
670 REM GET
680 AS=GETS
690 RETURN
700 REM TAB(X,Y)
710 PRINT TAB(X,Y);:RETURN
COMPLITER?

IS THIS YOUR COMPUTER?

Electron/BBC/Archimedes

The programs work as shown

Amiga and Atari ST

Remove line 370 Change the following lines:

10 MODE 0:KEYOFF:HIDE 680 AS=INPUTS(1) 710 LOCATE X, Y: RETURN

NOTE Delete won't work as you type your message in, so take care.

Amiga use CLS instead of MODE Ø

Commodore 64/128

Enter the program in capitals. Replace every CLS with PRINT CHR\$(147); Change or add the following lines:

250 LET F=0: FOR J=1 TO 5:IF MID\$(N\$, J ,1)=CHR\$ (I) THEN LET F=1 255 NEXT J: IF F=0 THEN LET FLAG=1 370 LET MS=MS+AS:LET L=L+1 375 IF A\$=CHR\$(20) AND L>1 THEN LET L= L-2:LET MS=LEFTS(MS,L) 680 GET AS: IF AS="" THEN GOTO 680 710 POKE 211, X: POKE 214, Y: SYS58732: RET URN

Spectrum

Select 48k mode

Change or add the following lines:

140 IF AS="N" OR AS="n" THEN CLS:STOP 230 LET FLAG=0:LET MS=NS (TO 5)

250 LET FOUND=0: FOR J=1 TO 5:IF MS(J) =CHR\$ (I) THEN LET FOUND=1 255 NEXT J: IF FOUND=0 THEN LET FLAG=1

270 IF N\$(6)<"0" OR N\$(6)>"4" THEN LET FLAG=1

370 LET MS=MS+AS: LET L=L+1: IF AS=CHR \$(12) AND L>1 THEN LET L=L-2:LET MS=MS T 0 L)

420 FOR I=1 TO 6: LET P(I)=VAL(NS(I)): NEXT I

430 GOSUB 330:LET MS=MS(TO L) 500 FOR I=1 TO 5:LET P(VAL (N\$(I)))=I:

NEXT I:LET P(6) = - VAL (N\$(6)) 510 GOSUB 330: LET CS=MS(TO L)

610 LET R\$=R\$+CHR\$ (CODE (S\$(I*5+P(J)))+P(6))

650 IF I<L THEN LET I=I+1:LET R\$=R\$+CH R\$ (CODE (S\$(I))+P(6)):GO TO 650

675 IF INKEY\$<>"" THEN GO TO 675 680 LET AS=INKEYS: IF AS="" THEN GO TO 680

710 PRINT AT Y,X;: RETURN

Amstrad CPC/PC (GW-Basic)

Change the following lines:

680 LET AS="":WHILE AS="":LET AS=INKEY S:WEND

710 LOCATE X+1, Y+1: RETURN

Discover how easy it is to make your computer move things round the screen. Then type in and play this fast-action game

Have you ever wondered how the objects are moved around the screen in games? The answer is that they never move at all!

Put simply, they are wiped out from one position then redrawn nearby. It happens so fast that your eye is tricked into thinking they're moving.

How realistic the movement is depends on two things: How far the object is shifted. And how quickly it can be drawn.

Imagine you want to move a star - * - around the screen. Start by printing it.

Next you print a space right over. Then you reprint the star nearby. That's all that Lines 50 and 60 in the program do.

The effect is a falling star. We can make a game from this simple start. Let's add an arrow which can from right to left.

Line 130 draws an arrow, together with the space that wipes out the one already there. It starts moving when you press the spacebar.

So, with just a few lines of program, we've got a game. The object is to hit the star with the arrow.

Type the listing in, SAVE it and RUN it. See if you can hit ALL the stars that fall!

CONTROLLING YOUR SPEED

Line 10 lets you decide how fast you want the objects to move. You can start with a slow game and make it faster as you get better.

Increase the number in D=10 to slow the game down.

10 LET D=10
20 CLS
30 LET X=31:LET Y=10:GOSUB 220:PRIN
T"<"
40 LET I=1
50 LET X=3:LET Y=I-1:GOSUB 220:PRIN
T" "
60 LET X=3:LET Y=I:GOSUB 220:PRINT"

*"
70 FOR J=1 TO D:NEXT J
80 LET I=I+1
90 GOSUB 240
100 IF I<20 AND K\$<>" " THEN GOTO 50
110 IF I=20 THEN LET X=6:LET Y=21:GO
SUB 220:PRINT "TOO SLOW":GOTO 180
120 FOR K=30 TO 3 STEP -1
130 LET X=K:LET Y=10:GOSUB 220:PRINT

140 FOR J=1 TO D:NEXT J
150 NEXT K
160 IF I=11 THEN LET X=6:LET Y=21:GO
SUB 220:PRINT "WELL DONE"
170 IF I<>11 THEN LET X=5:LET Y=21:G
SUB 220:PRINT "YOU MISSED"
180 LET X=5:LET Y=22:GOSUB 220:PRINT
"ANOTHER GO?"
190 GOSUB 240
200 IF K\$="Y" THEN RUN
210 IF K\$<>"N" THEN GOTO 190
220 PRINTTAB(X,Y);
230 RETURN
240 LET K\$=INKEY\$(0)
250 RETURN

IS THIS YOUR COMPUTER?

BBC Micro/Electron/ Archimedes

The listing works as shown

C64/128

Enter the program in capitals.
Change or add the following lines:

20 PRINT CHR\$(147)
130 POKE 211,X:POKE 212,Y:SYS 58732
220 GET K\$

ST(Stos)/Amiga(Amos)

Change the following lines:

20 KEY OFF : MODE 0 130 LOCATE X,Y 240 LET K\$=INPUT(1)

Amiga: Use CLS instead of MODE 0

Amstrad CPC

Change the following lines:

130 LOCATE X+1, Y+1 240 LET K\$=INKEY\$

PC (GW-Basic)

Change the following lines:

130 LOCATE X+1, Y+1 240 LET K\$=INKEY\$

Spectrum

Use 48k mode.
Change or add the following lines:

130 PRINT AT Y,X; 240 LET KS=INKEYS

MORE IDEAS

This fun game is designed to show you how easy it is to move things on a computer screen.

Use it as a base to build a bigger and better game. Here are just a few ideas for features you could add:

- Put in a timer so you can see how many you can hit in a minute.
- Make the speed of the star slightly different each time.
- Make the arrow start from a different height each time.
- Use your own designs of characters to make it a more realistic game.
- Have some stars going up as well as down.
- Put messages like open your eyes in place of the ones we have used. And you could make it print different messages. These would depend on how near the arrow was to the star.

出一心大学是大学的大学的 医神经性 医乳腺



Everyone (yes, EVERYONE) saves money buying presents at the Computer Shopper Show!

An exit poll conducted at last year's Computer Shopper Show revealed that 95 per cent of customers reported "substantial savings" from purchases with individual figures ranging from £50 to more than £1,000!

- ★ One-stop shopping for ALL your computer Christmas presents!
- Hundreds of stands packed with special show bargains!
- ★ Expert advice to help you make the right choice!

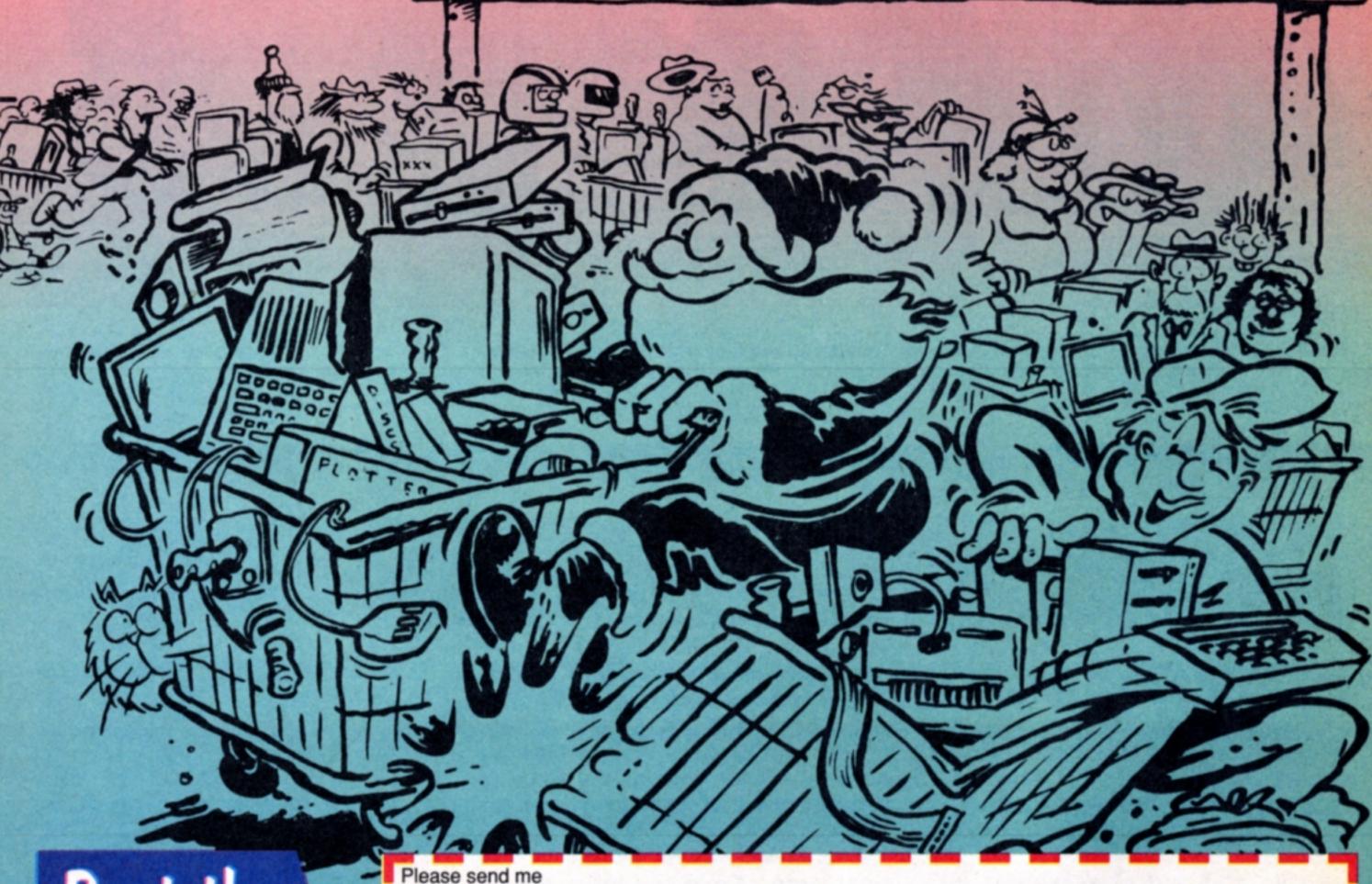








COMPUTER SHOPPER SHOW! SHOW! Wembley, London • 6-9 December

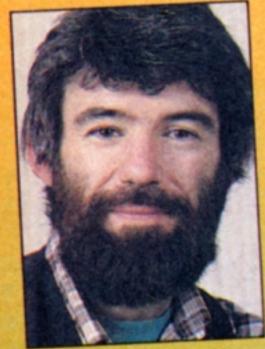


Beat the queues – by sending for your tickets

	s at £4 (save £1) tickets at £2.50 (save £1)	Family tickets – admits up to 2 aduction – £12.00 (save £5)			ilts and 2
I expect to attend	the Show on:	I am intere	ested in:		
☐ Thursday	☐ Saturday	☐ Acorn	☐ Amstrad	☐ Atari	☐ Commodore
☐ Friday	Sunday	□ IBM	Other	100	ALCOHOL: TEL
I would like to pay Cheque payable Visa Acce Expiry date	e to Blenheim Database Exhibitions	Name Address			
Please Compu	return your completed order form to: ter Shopper Show Ticket Office, Ellesmere Port, South Wirral L65 3EA	Postcod	е		LC-11

RING THE SHOW'S 051-357 1736





Every good game has sound and a high score table. Our ace artist Mike Goldberg puts the final polish on the mega game.

We're nearly there. Over the last three months we've built a great game between us. Now we'll add the final touch.

First we need a high score table. We've already put in eight dummy names for you. They are in Line 63. If you like you can change these for your own names.

We've also put in some decent sounds. There's an intro tune, a Game over sound and even a tune each time a screen is completed. All the croaks and groans of the

earlier version have been improved.

And there's a new object. Watch out for the lobster! If you touch it you'll be held captive for a while.

The final change is to make the game more enjoyable. Everything you expect to happen is now there.

And it all takes place in the right order. From the intro screen to getting YOUR name on the high score table.

Before adding the new features to your existing program you need to renumber it. How you do this is explained on the right.

Then, just type in the listing and your program will be modified automatically.

The lines printed in red are the new lines you have to add. Blue is for lines that are altered. As for the Line numbers shown in orange, just type these and press Return.

The old lines will be removed. Green areas show you the new procedures and any DATA that goes with them.

The REM lines explain what



they do. When you've made all these changes save the game. But use a different name to the one you used before.

Game Over

This is the end of the series. But the game's not really complete. It never will be.

You can always add or alter bits. On the right are a few ideas to get you started.

Try these, then think up your own changes.

You'll soon have exactly what you want - until you decide to make it even better!

Renumbering last month's program

Here's how to renumber last month's program ready to enter this month's extra bits:

LOAD last month's program

• Type DELETE 10,4130 and press Return so you're left with just the DATA lines.

 Save these lines to tape or disc using the following commands:

> *SPOOL DATA LIST

and after the lines have listed:

*SPOOL

LOAD last month's program again.

Type DELETE 8000,9000 to remove all the DATA lines.

Type RENUMBER and press Return

Put the data lines back (the ones you saved using *SPOOL) on the end of the program by entering:

*EXEC DATA

LIST the program to check that the main part is numbered from 10 to 2530 and the data is from 8000 upwards. If it is, SAVE it. If not, try again - taking care to follow these instructions exactly.

EVEN MORE **IMPROVEMENTS**

Your mega game is now complete. Or is it? There is always something else you can do to enhance any computer program.

Here are some ideas to show you how this game can easily be changed. Just add or alter the lines shown:

MORE BADDIES

2210 IFW%<12W%=W%+2

MORE CLOCKS

2211 IFn%<20n%=n%+2

EXTRA LIFE EVERY FOURTH SCREEN

2212 IF((%MOD4)=ØL%=L%+1:COLOUR128:COLO UR2:PRINTTAB(2,2);L%:FORI%=1T030:SOUND1, -14, RND(90)+90,1:NEXT

PAUSE FEATURE

1391 IFINKEY-90REPEATUNTILINKEY-106

Press Delete to pause, Copy to restart.

RANDOM SCREEN COLOURS

2213 REPEATa=RND(7):b=RND(7):c=RND(7):U NTILa<>b AND a<>c AND b<>c:VDU19,1,a;0;1 9,2,b;0;19,3,c;0;

CHANGE SPEED

Remove or alter the delay number at Line 220.

31 ENVELOPE1, 1, 2, 4, 6, 2, 4, 6, 126, -1, -3, -3,126,100 32 ENVELOPE2,3,-4,-8,-4,1,1,1,126,-1, -4, -4, 120, 12033 ENVELOPE3,1,1,0,0,200,5,5,126,-1,-2,-2,126,120 34 ENVELOPE4,3,4,-1,-5,8,8,8,126,-1,-3,-4,126,120 35 ENVELOPE5,1,-3,1,4,17,13,50,126,-1 ,-2,-3,120,110 36 ENVELOPE6,1,90,90,90,40,40,40,126, -1, -2, -3, 120, 11037 ENVELOPE7,1,1,3,-71,12,2,20,126,-1 ,-1,-2,120,100 38 ENVELOPE8,1,-2,0,0,200,0,0,126,-1, -1,-1,0,0 39 ENVELOPE9,3,8,0,-8,12,5,12,126,-1, -1,-4,120,120:ENVELOPE10,4,-4,-8,1,14,14 ,14,126,-1,-1,-1,120,120:ENVELOPE11,1,1, -1,0,1,1,0,126,-1,-3,-4,126,125 61 DIMHS%(8), HS\$(8) 62 FORIX=@TO7:HS%(I%)=125@-(I%*1@@):R EADHS\$(1%):NEXT 63 DATAPETE, ANDY, YOSSA, MIKE, EDNA, NORA ,OWEN, WEND 65 MODE6: VDU19, 1, 3; 0; : S% = 0: PROChst 66 PROCtune1 120 ob%=5:DIMo\$(ob%) 130 no%=8:DIMha%(no%) 135 RESTORE150 150 DATA7,64,4,112,240,1,170 155 MODE5: VDU23; 8202; 0; 0; 0; 19, 3, 4; 0; 240 IFys%=0PROCkeys 241 IFys%=1:IFRND(30)=1ys%=0:SOUND1,4, 20,1 272 IFend%=1G0T0320 300 *FX21 322 PROCend 323 MODE6: VDU19, 1, 3; 0; : PROChst: MODE5: V DU23;8202;0;0;0;19,3,4;0; 361 go\$="GAME OVER" 691 VDU23,248,165,165,165,231,66,102,6 0,28 692 VDU23,249,24,24,102,153,102,153,36 ,90 870 o\$(4)=K\$+CHR\$1+CHR\$246+D\$+CHR\$247 871 os(5)=K\$+CHR\$3+CHR\$248+D\$+CHR\$249 1231 ys%=0 1430 1440 1450 P%=?(&5800+((X%+x%)*16)+((Y%+y%)*3 20)) 1460 IFP%>0PROChit:IFh%=0ENDPROC 1481 SOUNDØ,-10,2,1 1560 1578 1590 1600 IFu%>0PROChadhit:IFbh%=0z%=(z%+1)M OD(W%):ENDPROC 1611 IFWP\$=b\$SOUND3,6,1,1 1631 SOUND2,-9,190-(z%*8),1 1700 SOUND3,9,88,1 1830 IFP%=ha%(I%)h%=I% 1890 IFh%=2SOUND1,1,90,1:PROCscore(500) :c%=c%+1 1910 IFh%=4SOUND1,1,190,1:PROCscore(RND (1200)*5)1920 IFh%=5SOUND1,2,60,1:stp%=1 1931 IFh%=8SOUND1,4,120,1:ys%=1 1980 IFbh%=1ANDL%>0GOSUB2280:PROCdie:IF L%>@PROChs 1990 IFbh%=2SOUND2,5,55,1:60SUB2270:PRI NTTAB(f%,g%)C\$

2000 IFbh%=3SOUND2,5,200,1:GOSUB2270:PR INTTAB(f%,g%)b\$ 2010 IFbh%=6ANDW%<12Lw%=W%:W%=W%+2:SOUN D2,7,177,1:FORI%=Lw%TOW%-1:GOSUB2270:U%(1%)=f%:V%(1%)=g%:PRINTTAB(U%(1%),V%(1%)) 2011 IFbh%=8:SOUND2,5,155,1:GOSUB2270:P RINTTAB(f%,g%)o\$(5) 2185 PROCtune2 2301 SOUND0,-13,7,20:SOUND1,8,250,20 2441 SOUND1,3,120,1 2600 REM *** ENDGAME *** 2610 DEFPROCEND 2620 *FX15 2630 SOUND1, 10, 111, 1 2635 COLOUR2:COLOUR128:PRINTTAB(4,30)"P RESS SPACE" 2640 REPEAT 2645 FORIX=1TOLENgo\$ 2650 in=INKEY(0):IFin=32G0T02670 2652 COLOURRND(3) 2655 PRINTTAB(1%+4,15)MID\$(go\$,1%,1) 2658 PROCdelay(5) 2660 NEXT 2665 PRINTTAB(5,15)SPC9 2670 UNTILin=32 2690 ENDPROC 2990 REM *** HISCORE *** 3000 DEFPROChst 3010 GOSUB3110 3020 PRINT'SPC8"Your score was "; S% 3030 IX=-1:REPEAT:IX=IX+1:UNTILSX>HSX(I %)ORI%=8:IFI%=8GOT03080 3040 FORJ%=7TOI%+1STEP-1:HS%(J%)=HS%(J% -1):HS\$(J%)=HS\$(J%-1):NEXT:HS%(I%)=S% 3050 INPUT' "Enter name "N\$ 3060 HS\$(1%)=LEFT\$(N\$,8) 3070 GOSUB3110 3080 *FX15 3090 PRINT'" Press SPACE to play again ...";:REPEATUNTILGET=32 3100 ENDPROC 3110 CLS:PRINTTAB(11,1)"HI-SCORES":FORI %=ØTO7:PRINTTAB(6,1%*2+4);HS\$(1%)TAB(28-(LENSTR\$(HS%(I%))), I%*2+4); HS%(I%) 3120 NEXT: RETURN 3200 REM *** TUNE1 (Intro) *** 3210 DEFPROCtune1 3220 RESTORE3500 3230 FORI%=1T034 3240 READN, D 3250 SOUND1, 11, N+48, D 3251 PROCdelay(2) 3252 SOUND2, 11, N+49, D 3260 NEXT 3280 ENDPROC 3500 DATA49,2,61,2,61,2,61,2,53,4,49,2, 61,8,61,2,69,2,53,2,69,2,81,2,77,2,69,2, 61,8,61,2,69,2,53,2,69,2,81,2,77,2,69,2, 61,2,69,2,61,2,49,2,33,2,49,2,61,2,61,2, 61,2,69,4,77,2,81,2 3600 REM * TUNE2 (Complete a screen) * 3610 DEFPROCtune2 3615 RESTORE3700 3620 FORI%=1T011 3630 READN, D 3640 SOUND1,11,N+20,D 3650 PROCdelay(2) 3660 SOUND2,11,N+21,D 3670 NEXT 3680 ENDPROC 3690 ENDPROC 3700 DATA89,2,85,3,77,2,69,3,61,2,57,3, 49,2,41,3,57,2,69,3,89,2

ALL THE OBJECTS OF THE MEGA GAME

LOBSTER

CLOCK

















Don't let your pack get away!

JON OUR

Subscribe at the same

Here's YOUR chance to become a member of the most exclusive club in computing – and save money too!

If you become a founder subscriber to Let's Compute! by using the form below, you can also join the Club for just £3 (saving £2).

As soon as we've registered your name we'll send you a giant package of gifts to help you make the most of your computer.

In addition to your own Gold Membership Card you'll also receive lots of software on an action-packed disc or tape (don't forget to state which you require), PLUS onotepad, ruler, pencil and rubber stickers stylish hat and badge an incredible £200 worth of money-saving vouchers!

And that's not all! As a club member you'll be entitled to take part in exclusive competitions and special events with super prizes.

Make sure YOU don't miss out. Fill in the form below and send it today!

(Should you prefer to buy Let's Compute! from your newsagent each month, you can still join the Club by paying the normal joining fee of £5. You can do this by filling in the appropriate part of the form below.)

Send me the next 12 issues of Let's Compute for the special introductory price of £12 (including postage and packing). I'd also like to become a founder member of the Let's Compute! Club for the special price of £3 (instead of the regular £5) – so please send me the bumper Club pack with my first issue. I'll order Let's Compute! from my newsagent, but I'd still like to join the Club and receive my bumper member's pack for £5. I wish to pay by:			Name				
☐ Credit card No:	e to Database Publications	Exp. date		TO: Database D No stamp need if pos		THE RESERVE AND PERSONS NAMED IN	uth Wirrall L65 3EB DERS: 051-357 1275
Please send my software in this format	Compact/Archi/Elk (3.5" disc) 3050 Spectrum (tape) 3060	☐ BBC/Elk (5.25" 40 T) 3051 ☐ Spectrum (disc) 3061	☐ BBC/Elk (5.25" 80 T) 3052 ☐ C64/128 (disc) 3062	☐ BBC/Elk (tape) 3053 ☐ C64/128 (tape) 3063	Amiga (disc) 3055 ST (disc) 3054	☐ CPC (disc) 3056 ☐ PC (5.25") 3058	☐ CPC (tape) 3057 ☐ PC (3.5") 3059

GLUB TODAY

time – and save £2!





This is the BBC version - other versions will vary

- and ALL this will be yours!

Your own logo disc or tape for £1!

Turtle graphics is a vital part of any Logo program. And that's what Turtle Logo is. Specially written for the Electron, BBC Micro and A3000/Archimedes series, it is on the tape or disc that comes with the Let's Compute! Club bumper pack.

You can find out how to join the Club on Page 32 - and about all the other goodies sent out to members.

However, if you only want Turtle Logo we'll send it to you for just £1 if you complete and return the coupon below

ORDER FORM

Please send me the Let's Compute! Turtle Logo. I enclose cheque, postal order or stamps the the value of £1.

(Only suitable for Electron, BBC)

(Only suitable for Electron, BB)
Micro or Archimedes series.)

Name.		 	
Addre	ss	 	

Age.....

Post code

Please send it on:

- ☐ 5.25in 40T disc ☐ 5.25in 80T disc
- □ 3.5in disc
- ☐ Cassette

SEND TO:

Logo Offer, Let's Compute! Europa House Adlington Park Macclesfield SK10 5NY

KNOT LOGO? Oh yes it is!

When Terry Turtle joined the scouts he was asked to tie a reef knot. But as you would expect, being a very modern turtle, he didn't need rope.

He used his computer and the language Logo. Here's how he drew his first knot.

First he wrote a procedure which he called CURVE. He did this by entering:

TO CURVE

Then he keyed in the instructions to tell his computer how to draw a curve. You can see what he wrote in the first three lines of the listing on the right.

To try this (and the rest of Terry's program) you first need to run the Logo Language. This is available for most computers.

If you haven't got one and you're using an Acorn computer the Let's Compute! Turtle Logo is an ideal starting point – see the offer on the left.

Type in the three lines and test them by entering:

CURVE 2

The number 2 is the size the curve. (Try others like 1, 2 and -2 and see what happens.)

Next, Terry wrote the procedure LOOP. This drew one part of his knot – a U shape on its side. Type it in and try it by keying:

LOOP 400 2

It uses the procedure which we've called CURVE. So remember you must key that in first. If you change the numbers you'll draw different sizes of loop.

He decided that now he had

the two main procedures the rest was as easy as one, two, three – so that's the names he used for his procedures. Here's what they do:

ONE draws two parallel loops inside each other. This gave his rope thickness.

• TWO draws another loop of rope pointing the other way. It stops where it hits the first. This gives the effect of it going under.

THREE draws the ends of the second loop. That's when they show again after going under the first.

Finally, Terry wrote a procedure he called KNOT. This uses his other procedures.

So, to draw Terry's knot you should key in the listing alongside. Then SAVE it by entering:

SAVE "KNOT

To see Terry's knot, just key:

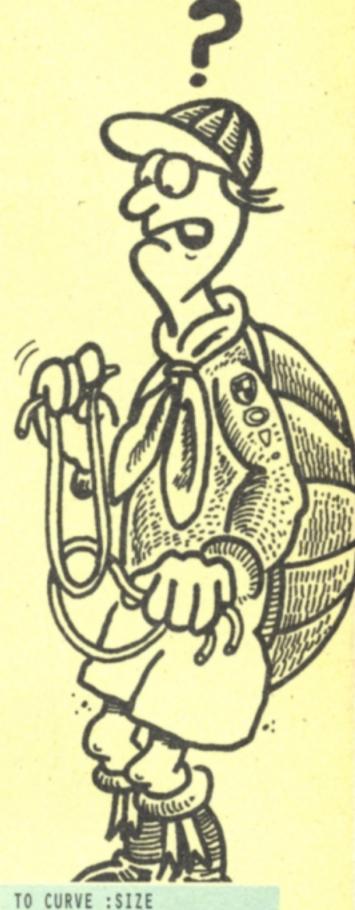
KNOT

But oh dear! Terry may be able to program in Logo but he can't draw knots very well.

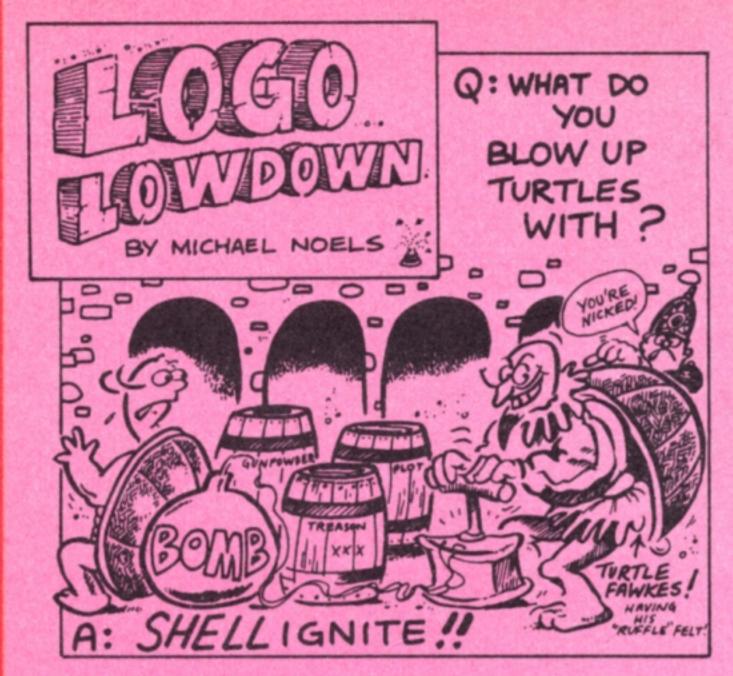
He's ended up with two bits of string on top of each other. It looks great, but it isn't the reef knot he set out to draw.

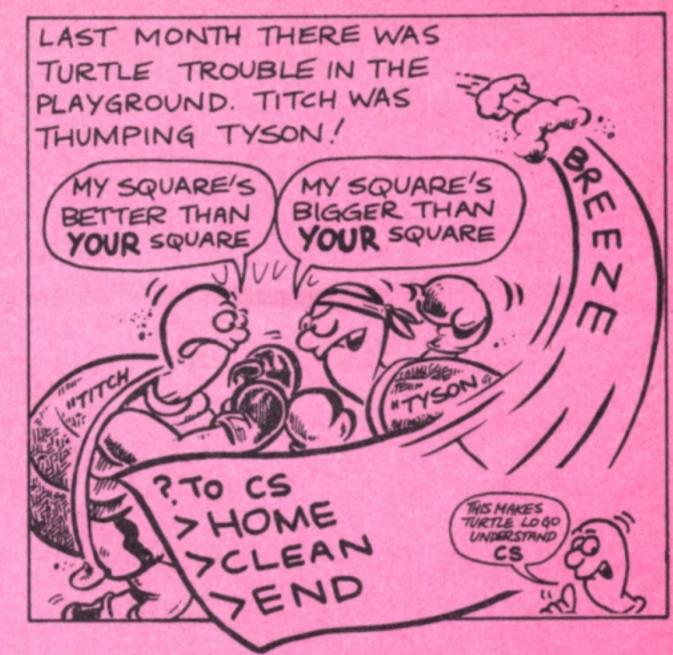
Can you help him? If you can draw a reef knot – or any other knot – send us a listing of your program. We'd also like a copy on tape or disc, and please let us know which version of Logo you used.

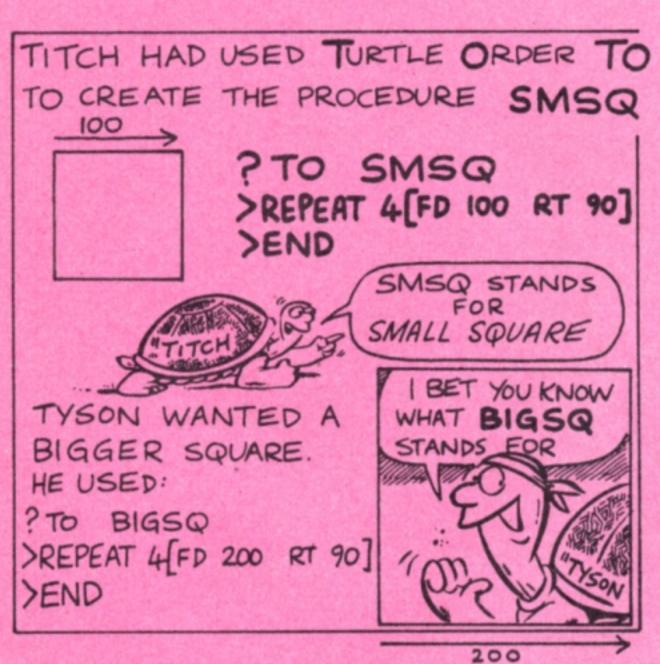
Post it to Let's Compute!
Adlington Park, Macclesfield
SK10 4NP. There's a super Let's
Compute! baseball cap for the
writer of every one we print.

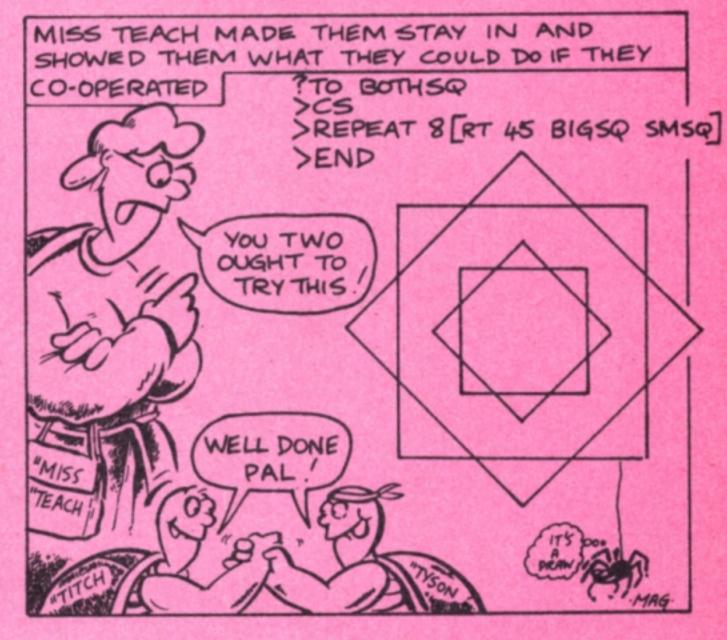


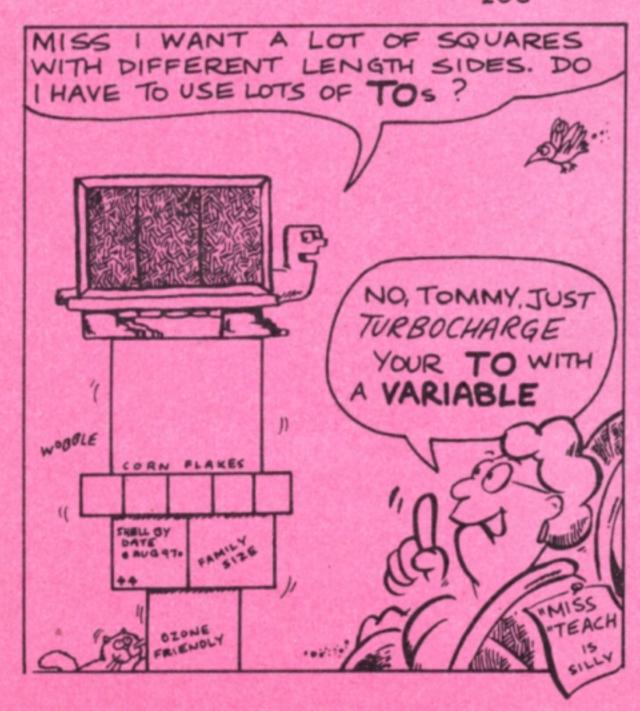
REPEAT 90 [FD :SIZE RT 1] END TO LOOP :DIST :SIZE PU RT 90 BK : DIST PD FD : DIST CURVE : SIZE CURVE : SIZE FD : DIST END TO ONE HOME PU FD 200 PD LOOP 400 4 PU HOME PU FD 145 PD LOOP 400 3 PU END TO TWO HOME PU RT 180 FD 140 PD LOOP 120 2 PU HOME PU RT 180 FD 85 PD LOOP 150 1 PU END TO THREE HOME PU RT 180 FD 140 LT 90 FD 205 PD FD 195 PU LT 90 FD 55 LT 90 PD FD 170 PU RT 90 FD 115 RT 90 PD FD 170 PU LT 90 FD 60 LT 90 PD FD 195 END TO KNOT HOME CLEAN ONE TWO THREE HT END

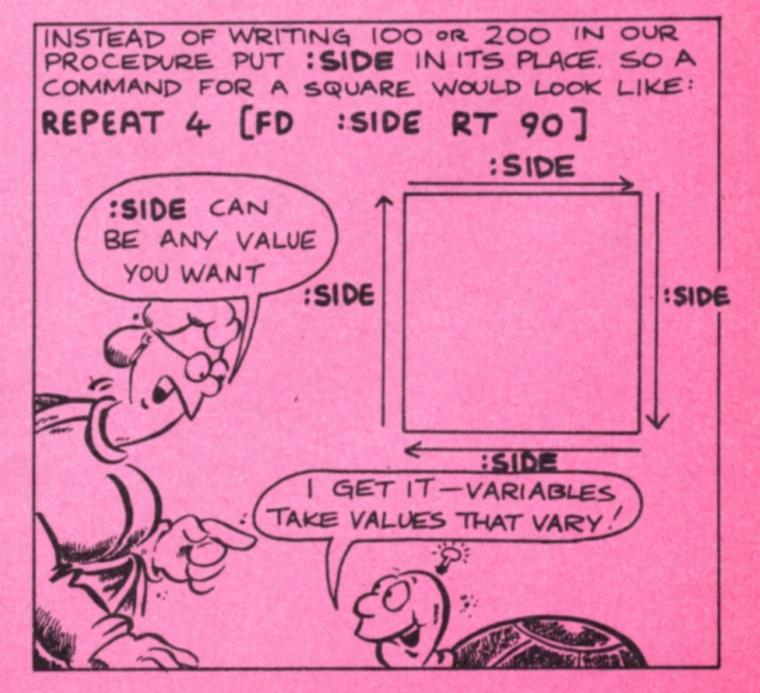


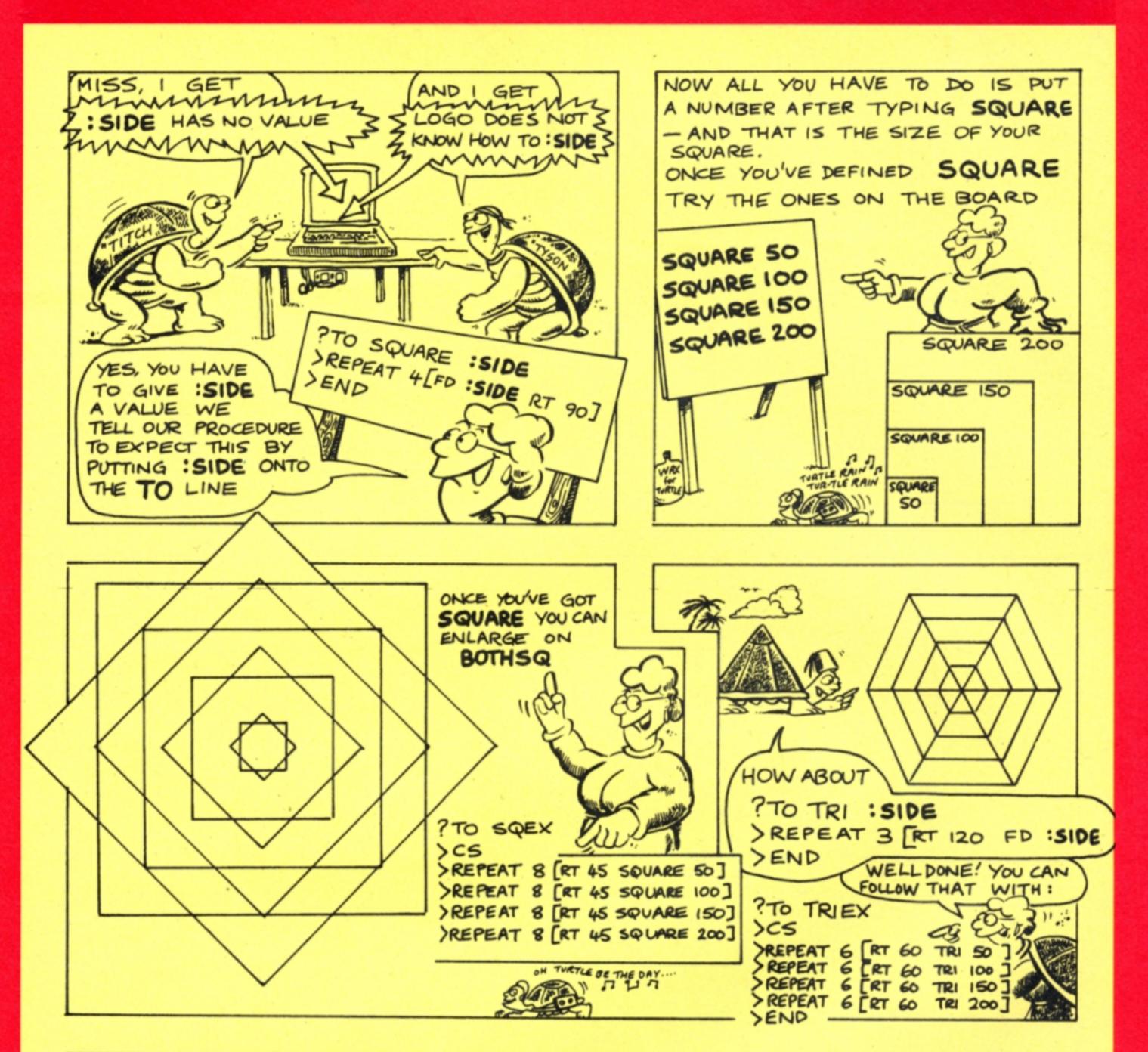


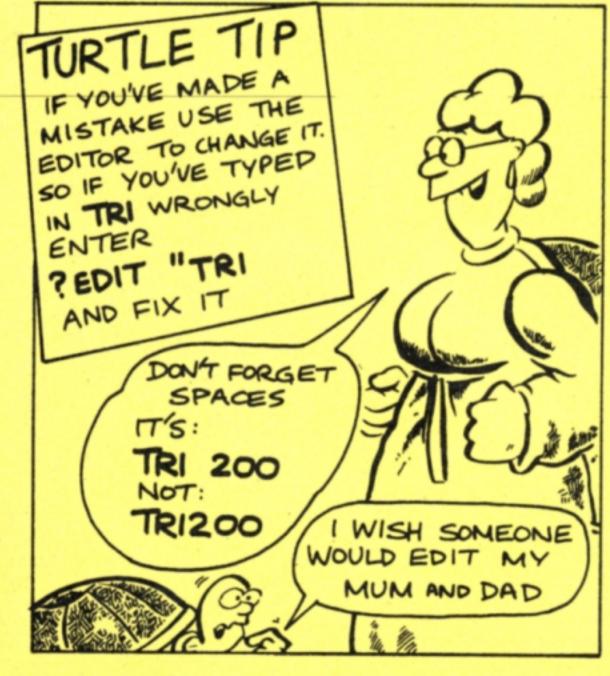




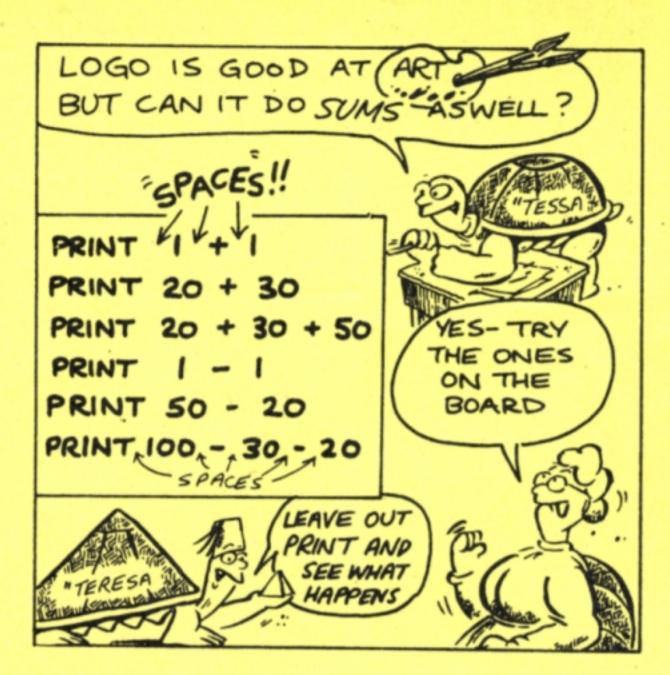


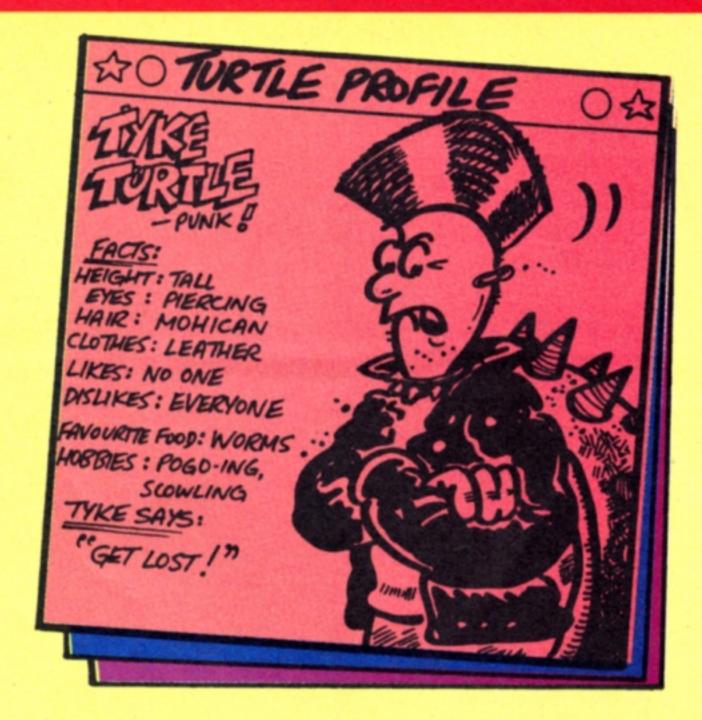


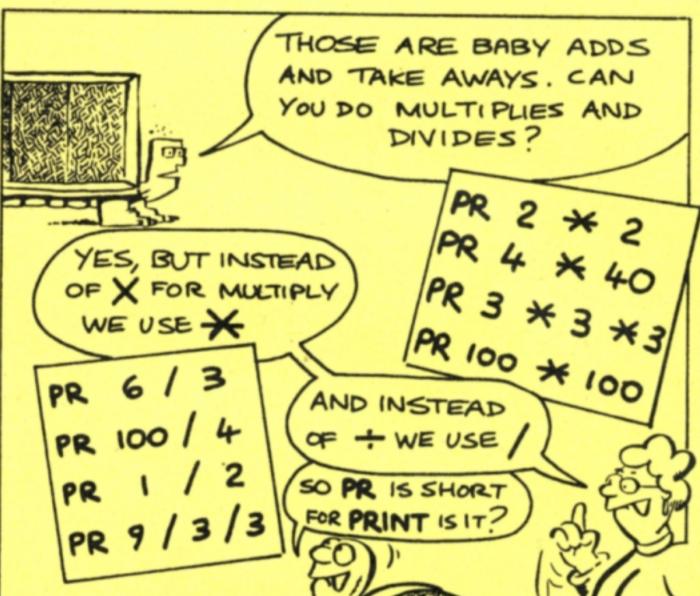












LOGO CAN EVEN REMEMBER NUMBERS.
IT GIVES THEM NAMES. FOR FUN WE'LL
GIVE OUR NUMBER THE NAME NUMBER—
SO WE WON'T FORGET WHAT IT IS.
HERE'S HOW TO DO IT

MAKE "NUMBER 100

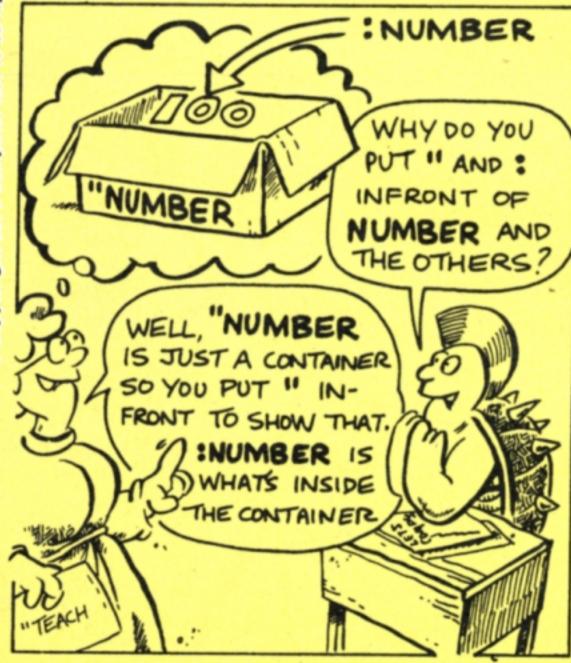
PR : NUMBER

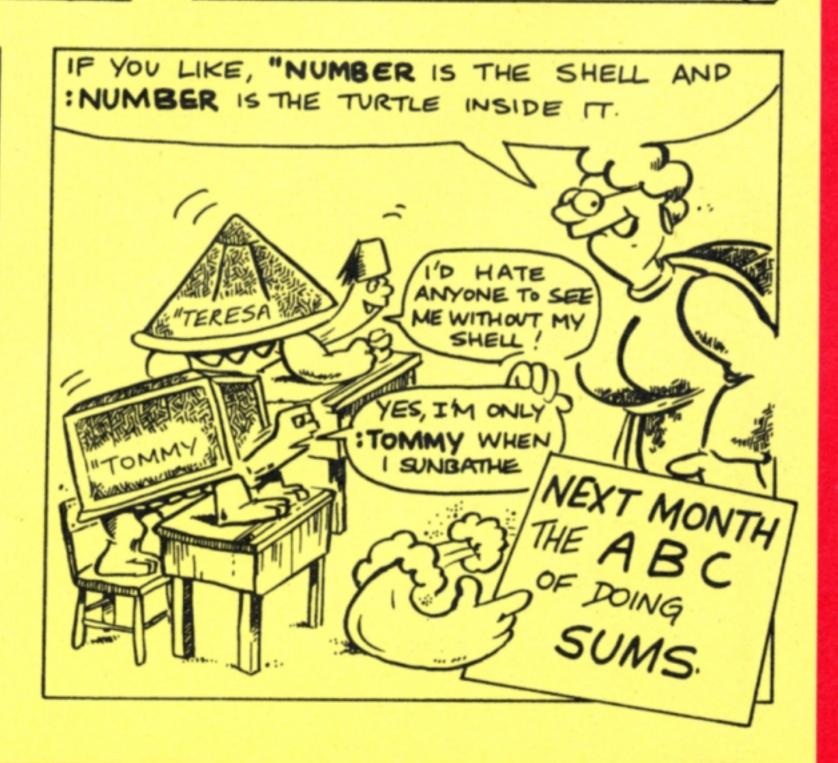
YOU CAN NOW DO SUMS
WITH NUMBER. TRY THESE

PR : NUMBER + 10

PR : NUMBER + 2

PR : NUMBER + : NUMBER









Film Fun

As Christmas is getting near, all the big software houses are bringing out new games. And lots of them are follow-ups to old ones.

RoboCop 2. It's due out from Ocean soon. It should feature much the same mix of blasting and puzzles as the original.

The **Gremlins 2** licence has been snapped up by Elite. But there are still not many details about how the game will turn out.

If it's anything like the film, you can be sure it will be set in a building and feature most of the cute mutant Gremlins.

Rick's Back

Rick Dangerous, the superhero with the Flash Gordon shirt and blond quiff, is back again. **Rick Dangerous 2** is on all formats and has been released by Microprose.

There are five levels of the same frustratingly addictive platform and shooting action as the original. It costs £9.99 (8-bit) and £24.99 (16-bit).

Speedball 2

The Bitmap Brothers and Mirrorsoft are about to release a follow-up to **Speedball**. It should be another ace multi-format sport game set in the future.

It's basically a cross between rollerball and football.

There are two teams of nine-a-side and loads of extra features like bonus pick-ups, warp gates and a management section.

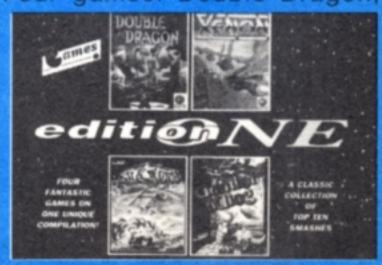
But the best aspect is that there are no rules. You can be as violent as you want! Check it out in late November – it should be one of the best games of the year.

All together now!

The latest compilation to appear on the ST, Spectrum, Amiga, CPC and C64 is **Edition**One. It's from Virgin and costs £12.99 on tape or £24.99 on disc.

It contains Four games: Double Dragon,

Silkworm, Xenon and Gemini Wing. The first is the classic oriental combat game for one or two players.







BARGAIN BUYS!

The biggest budget news this month is for 16 bit computer owners. Ocean are about to release a back catalogue of games for the ST and Amiga.

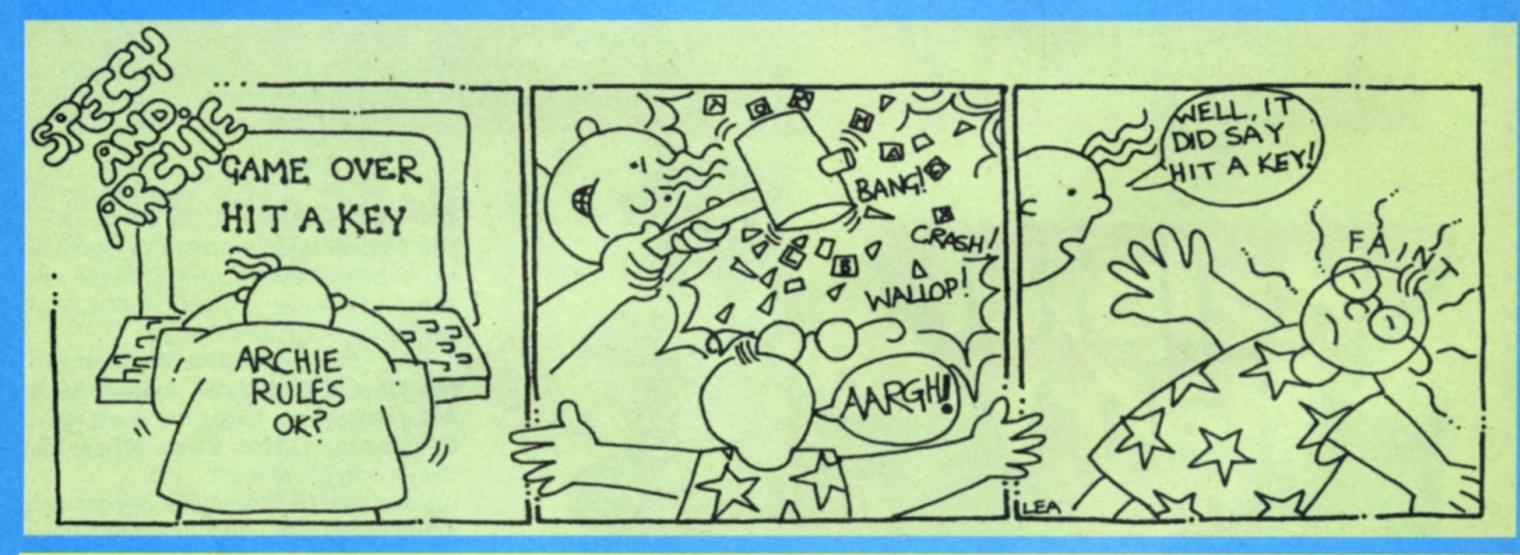
Titles will include Wizball, Batman the Caped Crusader, Arkanoid 2, Afterburner, Super Hang On, R-Type and The Last Ninja 2. They'll cost £7.99 each.

Spectrum, CPC and C64 owners can look forward to a budget licence based on the Aussie soap, **Neighbours**. It's due to be released by Zeppelin soon and will cost £2.99.

If you've got any hints, pokes or cheats you'd like us to print send them in to us at:
Let's Compute! Europa House, Adlington Park, Macclesfield SK10 4NP.







The Micro Kid







PROGRAM DOCTOR

The program below is intended to put two numbers in order. When Doc saw it he had just three comments:

- What if the numbers are the same?
- What if you want to sort just more than two numbers?
- Who would want to sort two numbers on a computer?

So he threw it away and wrote the second program. It sorts as many numbers as you want.

Just type it in and RUN it. You'll first be asked how many numbers you want to sort.

Give the answer and you will see a question mark. You now have to type in the numbers you want to sort, one after the other.

After you have keyed in the last number there is a short pause. Then the program will display the numbers in order.

It's not the fastest way of sorting numbers. But it's short and much better than the original program.

We'll be looking at other ways of sorting things in future issues of Let's Compute!

There's always a better way of doing things! Here's another program just waiting to be operated on. Our resident micro medic diagnoses several shortfalls.

This is the original program:

١.	
	10 INPUT A,B
Н	20 IF A>B THEN PRINT A,B
Н	30 IF A <b b,a<="" print="" th="" then="">
ľ	How the Dos offered its
ı	How the Doc altered it:
ı	10 INPUT "HOW MANY"; LS
ı	20 DIM J(LS) Program
ı	
ı	
ı	50 NEXT L
ı	60 LET FS=1
ı	70 LET PU=J(FS)
ı	80 LET FS=FS+1
ı	90 FOR P=FS TO LS
ı	100 IF PU <j(p) it="J(P):LET" j(<="" let="" th="" then=""></j(p)>
ı	P)=PU:LET PU=IT
ı	110 NEXT P
ı	120 LET J(FS-1)=PU
ı	130 IF FS <ls 70<="" goto="" th="" then=""></ls>
	140 FOR L=1 TO LS
	150 PRINT J(L)

160 NEXT L

TRY THIS

There is a short pause between typing in the last number and the sorted numbers being displayed. Time the pause for sorting several different sets of numbers.

Does it take twice as long to sort 20 numbers than 10? Does it take half as long to sort 25 numbers than 50? Is there any pattern to how long it takes?

Time the program for several sets of numbers. You could draw a graph of the results.

And why not check whether the pause is shorter if the numbers start off in order rather than mixed up? Does it take longest to sort numbers that start in reverse order?

How the Doc's program works

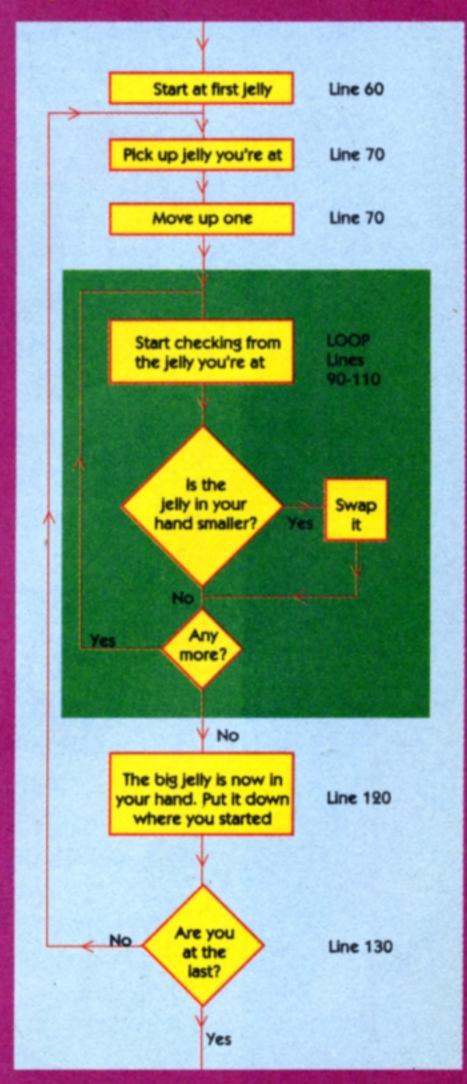
The doctor first worked out how to sort numbers when he was at a party. He wanted the biggest jelly.

He was first in the queue, ready to walk down a row of jellies and pick the biggest. But the only way he could make sure he got the biggest was to pick up the first and walk along the row of jellies, swapping the one in his hand with any bigger ones he saw.

When he got to the end, he went back to his position and guarded his jelly. The second person then went looking for the biggest remaining. He started his search at the second place and returned there when he had found the biggest.

The next in line – and then the third, fourth, fifth and so on – did the same. And this program works just like that.

Lines 10 to 50 and 140 to 160 read in and print out the numbers. The rest of the program does the sorting. This flowchart explains how it works:









Design your own Christmas Card — and WIN 50 copies for yourself

Merry Christmas to all our readers



How would like to send your friends and relatives a printed Christmas Card that you've created yourself? Well, this is your chance!

Just send your own design to Let's Compute! We'll pick the best and have it professionally printed for you.

The winner will be sent 50 copies of their selfdesigned card - together with envelopes. And it will arrive well in time to post for Christmas.

Here's all you have to do

- The Draw the picture you would like to see on the front of your card. You can design this on your computer or draw it by hand. It should be on a white A4 piece of paper. But only use two colours for example red and green.
- The winner can have a poem, message, name or anything else printed inside the card. Let us know what you would like putting there if you win. Just jot it down on a separate piece of paper and send it with your entry.
- Then post your entry to Let's Compute! to arrive no later than November 20.

-			
- n	Trv	-0	rm
	itry	10	

Tel Age

Send to Christmas Card Contest, Let's Compute!

Europa House, Adlington Park, Macclesfield SK10 4NP

HIWARE

Unit 4, B.D.C, 21 Temple Street, Wolverhampton WV2 4AN. Tel: 0902 25304

BBC/ELECTRON FULL PRICE

		CASS	DISC 5.25	DISC 3.5
ARCADE SOCCER	B8/EL	6.99	8.99	9.99
BALISTIX	88	6.99	8.99	9.99
BARBARIAN 2	88/EL	6.99	8.99	9.99
BLAST		6.99	8.99	N/A
BRIAN CLOUGH		6.99	7.99	N/A
COLOSSUS BRIDGE 4		8.99	9.99	N/A
COLOSSUS CHESS 4		6.99	9.99	N/A
E-TYPE	88/EL	6.99	9.99	N/A
ELITE		. 8.99	9.99	13.99
EXILE		8.99	9.99	13.99
FOOTBALL DIRECTOR	88	6.99	8.99	N/A
FOOTBALL MANAGER	88/EL	2.99	N/A	N/A
HOLED OUT		8.99	9.99	10.99
HOLED OUT EXTRA VOL 1	88/EL	6.99	8.99	8.99
HOLED OUT EXTRA VOL 2	88/EL	6.99	8.99	8.99
IMPACT		2.99	N/A	N/A
KLAX	88	6.99	9.99	N/A
LAST NINJA 2		6.99	8.99	9.99
LICENCE TO KILL	88	8.99	9.99	N/A
MINI OFFICE 2	88	9.99	N/A	N/A
MINI OFFICE 2 (40 TRACK)	88	N/A	11.99	13.99
MINI OFFICE 2 (80 TRACK)	BB	N/A	11.99	13.99
MONOPOLY	88	8.99	9.99	N/A
NEVRYON	88	N/A	9.99	10.99
PERPLEXITY	8B/EL	6.99	8.99	9.99
PIPEMANIA	BB/EL	6.99	9.99	N/A
PREDATOR	88	6.99	8.99	9.99
QUESTION OF SPORT		8.99	9.99	13.99
REPTON/INFINITY	88/EL	8.99	9.99	13.99
RICOCHET	8B/EL	6.99	8.99	9.99
SCRABBLE		8.99	9.99	N/A
STAR WARS		6.99	8.99	N/A
TRIVIAL PURSUIT-GENUS		9.99	13.99	N/A
U.I.M.		N/A	13.99	14.99
WHITE MAGIC 1 OR 2	B8/EL	6.99	8.99	9.99

BBC/ELECTRON BUDGET

I-D DOTTY	.BB/EL	1.99	KRAKOUT	88	2.99
3-D SNOOKER	.88/L	2.99	LAST NINJANEW	.BB/EL	2.99
VIRWOLF	.68	1.99	LEAGUE CHALLENGE	BB/EL	2.99
WACHY ZONE	.BB/EL	1.99	LIFE OF REPTON	BB/EL	2.99
WKANOID	.BB	2.99	MINI OFFICE	EL	2.9
BARBARIAN	.88	2.99	MR.WIZ	BB/EL	2.9
SUG EYES 2	.BB/EL	2.99	PAPERBOY	.BB/EL	2.9
AMELOT	.BB/EL	2.99	PRO BOXING SIM	.BB/EL	2.9
TADEL		2.99	PRO GOLF	BB/FL	2.9
OMMANDO	BB	2.99	RAVENSKULL		2.9
RAZEE RIDER	.BB/EL	2.99	REPTON 1 OR 2	BB/FL	2.9
REEPY CAVE	.BB/EL	1.99	REPTON 3NEW	RR/FL	2.9
ARTS	BB/EL	1.99	REPTON THRU TIME	BR/FL	2.9
EATHSTAR	.BB/EL	2.99	REVS 4 ADD ON TRACKS	RR	2.9
OMINOES		2.99	SHANGHAI WARRIOR	RR/FI	1.9
OOTBALL MANAGER	BB/FL	2.99	SMASH AND GRAB	RR/FI	1.9
RAK		1.99	SOCCER BOSS	RR/EI	1.9
RUIT MACHINE SIM		2 99	SPELL BINDER	RR/EI	2.9
ALAFORCE	RR/FL	2.99	SPITFIRE 40	BR/EI	2.9
OLF	RR/FI	1 99	SPOOKSVILLE	90/EL	2.9
RAHAM GOOCH	FI	1 00	SDV CAT	00/EL	2.9
REEN BERET	RR	2 99	STEVE DAVIS SNOOKER	DD/EL	1.9
RID IRON 2	BR/FI	2.00	STORM CYCLE	DD/EL	1.9
UN FIGHTER	RR/EI	1.00	STORM CYCLE	DD/EL	2.9
I Q QUIZ	BB/EL	2.00	STRIP POKER		
OR CONIUS	man area	2.99	STRYKERS RUN	.BB/EL	2.9
OB GOBLIN		2.99	SUMMER OLYMPIAD	.BB/EL	2.9
	DB/EL	1.99	TETRIS	.BB/EL	2.9
TYPER SPORTS	DD /F1	2.99	THRUST		2.9
DE BLADE		1.99	TRAPPER	.BB/EL	1.99
DE BLADE 2	55	1.99	TURF FORM	.BB/EL	2.99
ARATE COMBAT	BB/EL	2.99	YIE AR KUNG FU	.BB/EL	2.99

UTHERITIES

5 1/4 UNBRANDED DISCS35	EACH	5 1/4 50 P
2.99	/10	5 1/4 100
6.99	/25	3 1/2 40 P
3 1/2 UNBRANDED DISCS69	EACH	3 1.2 80 P
5.99	/10	MOUSE M
13.99	/25	

5 1/4 50 PIECE DISC BOX	5.99
5 1/4 100 PIECE DISC BOX	.99
3 1/2 40 PIECE DISC BOX	5.99
3 1.2 80 PIECE DISC BOX	.99
MOUSE MAT 80mm	.99

SPECTRUM CBM 64 & AMSTRAD

BUDGET GAMES			
2 Player Super League Soccer		2.9	į
3-D Pinball	-	2.9	į
4 x 4 Road Race		2.9	
1942		2.9	
1943	-	2.9	
720	-	2.9	
Ace	**	1.9	
Ace 1 and 2		2.9	
Advanced Pinball		2.9	
Airwolf		2.9	
Atom Ant	Ľ	2.9	
Bangkok Knights (CBM 64 only)		4.9	
Barbarian 2 NEW Batman the Caped Crusader NEW		2.9	
Barbanan Z	£	5.9	3
Blattanida Caped CrusaderNEW	Į.	2.9	9
Blasteroids		2.9	1
Blinky's Scary School		1.9	9
The Boxer	E	9	3
British Superleague		9	9
Bombiach 1 or 2		9	2
Bombjack 1 or 2	-4	.,9	9
Boxing Manager		.,9	2
Ruggy Boy			2
Buggy Boy	į;	10	1
Cauldron 1 or 2	1	1.7	1
Cauldron 1 or 2	Ħ	7	į
Chuck Yeager	; :	0	1
Chuckie Egg 1 or 2	5	0	
Classic Punter	"	0	
Classic Trainer	1	0	
Combat School	2	9	g
Commando	3	0	g
Crazy Cars	3	0	g
Cricket Captain	3	9	g
Cup FootballNEW	,	Q	ģ
Cybernoid	3	9	ģ
Daley Thompson's Decathlon	-2	9	ģ
Daley Thompson's Olympic Challenge	.2	9	ġ
Daley Thompson's Supertest	_2	9	g
Delta (CBM 64 only)NEW	3	.9	ġ
Dizzy Dice	Ĵ.	9	ġ
The Double			
Dragons Lair	.2	.9	g
Empire Strikes BackNEW	2	9	g
Escape from Singes Castle	.2	9	ġ
FA Cup	-1	Q	g
Fantasy World Dizzy	2	.9	g
Fast Food	.2	.9	ġ
Ferrari Formula OneNEW	2	.9	g
First Past the Post	.2	.9	9
The Footballer	.2	.9	9
Football Champions	.2	.9	9
Football Manager	.2	.9	þ
Footballer of the Year	.2	.9	9
Frank Bruno	.2	.9	
Fruit Machine Sim 1 or 2	.2	.9	Ì
G.B Air Rally	2	.9	9
Games Winter Edition (CBM 64 only)NEW	3	.9	9
Gary Linekers Hotshots	.2	.9	1
Gauntlet 1 or 2	.2	.95	
Ghostbusters	.!	.5	1
Craham Cooch	4	.91	
Graham Gooch	.!	.77	1
Grid Iron 2	-4	0	
Cover	5	Di	
Gryzor	2	91	9
Hardhall	2	00	9
HardballNEW	2	00	9
Hypersports	5	00	,
LK+	5	04	
Ice Hockey (CBM 64 only)	3	Of	
Impossible Mission 2	5	90	Í
Impossible Mission 2	5	Q	
International Manager	5	90	
International Soccer	5	Q	Í
Ikari Warriors	2	99	þ
Jack the Nipper 1 or 2	5	Q	
JawsNEW	5	90	į
Kentucky RacingNEW	5	90	į
Kikstart 2	ī	99	į
Knight Games	2	99	þ
Last Ninja (CBM 64 only)	2	99	į
Leaderboard	2	99	į
League Challenge	2	99	Ì

Little Dudi		00
Little Puff		99 99
Match Point	2	99
Matchday 2	2.	99
Matchday 2	2.	99
Monty on the Run	2.	99
Motorcycle 300NEV	72.	99 00
NemesisOllie and Lisa 3		99
On the Bench	2	99
On the Bench	/2.	99
OutrunNEV	/ 3.	99
Overlander	2.	99
Paperboy	2.	99
Platoon	Z.	99 oo
Predator	2	99 99
Prince Clurnsy	2	99
Prison Riot	12.	99
Pro Boxing Sim	.2.	99
Pro Tennis Sim	2.	99
Pub Games	.2.	99
Quedex (CBM 64 only)		99 00
Rambo	5	99
Rampage	2	99
RastanNEW	125	99
Real GhostbustersNEW	12.5	99
Renegade 3NEW	.2.9	99
Renegade 3NEW	2.5	99
Roadblasters	.Z.	99
Rock Star Ate My Hamster	21	99
Roulette Sim	2	99
Roulette Sim	.2.9	99
Saboteur 1 or 2	.1.5	99
Salamander NEW	2.5	99
Sam Fox	.2.5	99
Scooby Doo	-1.	99
Skate or Die	20	99
Skate Crazy		
Soccer Boss	-13	99
Soccer Director	.2.5	99
Soccer Q	.2.5	99
Soccer 7 Solomon's Key	-Z.5	99
Sooty and Sweep	2.5	99
Spaghetti Western	21	99
Spindizzy	2.9	99
Spitfire 40	.2.5	99
Spyhunter	.2.5	99
Spy v Spy 1 or 2	.2.5	99
Street Fighter	1.3	99
Striker	2.0	99
Striker Strip Poker 2	2.9	99
Summer Games	.2.5	99
Super Ski ChallengeNEW	2.5	99
Super Nudge 2000	.2.5	99
Super Nudge 2000	.1.5	99
Super TruxNEW	2 0	20
Tetris	.2.5	99
Theatre Europe	2.5	99
Thomas the Tank Engine	.2.5	99
Thundercats	.2.5	99
Tiger RoadNEW	3.5	99
Treasure Island Dizzy	2.5	10
U.S. Basketball	2.9	99
U.S. Basketmaster	.2.9	99
The Vindicator		
WEC Le Mans	.2.9	99
Way of the Tiger	.2.9	9
Winter Games	2.0	10
Wizball	20	10
The WomblesNEW	2.9	19
Wonderboy	2.9	19
World Class Leaderboard	2.9	19
World Games	2.9	9
World Series Baseball	2.9	19
Yes Prime MinisterNEW	2.9	10
Yie Ar Kung Fu	2.0	ó
Yogi Bears Great Escape	2.9	9

COMPILATIONS

PLAY IT AGAIN SAM 14 SUPERSIDE SOCCER, PREDATOR. STARPORT. BB/EL CASS 6.99. BB 5.25 DISC 8.99. BB 3.5 **DISC 9.99**

PLAY IT AGAIN SAM 13 **BARBARIAN 2, PERCY** PENGUIN, HYPERBALL & PANDEMONIUM. BB/EL CASS 6.99. BB 5.25 DISC 8.99. BB 3.5 **DISC 9.99**

CECCO

COLLECTION

STORMLORD,

EXOLON,

CYBERNOID 1 & 2.

CASS

2.99

PLAY IT AGAIN SAM 12 LAST NINJA, BY FAIR MEANS OR FOUL, SKIRMISH & BLAGGER. BB/EL CASS 6.99. BB 5.25 DISC 8.99. BB 3.5 **DISC 9.99**

QUATTRO

ADVENTURE

DIZZY,

GHOST HUNTERS.

SUPER ROBIN HOOD &

VAMPIRE.

CASS 2.99

PLAY IT AGAIN SAM 11 BARBARIAN. PIPELINE, BARON & MONSTERS. BB/EL CASS 6.99. BB 5.25 DISC 8.99. BB 3.5 DISC 9.99

WORLD CUP

COMPILATION

KICK OFF,

GARY LINEKERS

HOTSHOTS & TRACKSUIT

MANAGER

CASS 8.99

100% DYNAMITE AFTERBURNER, LAST NINJA 2 WEC LE MANS DOUBLE DRAGON. CASS 9.99

GAME SET AND MATCH 2

MATCH DAY 2, SUPERBOWL,

WINTER OLYMPIAD, NICK

FALDO, CHAMPIONSHIP

SPRINT, TRACK AND FIELD.

STEVE DAVIS SNOOKER &

SUPER HANG ON. CASS 8.99

TAITO COIN OPS RASTAN, FLYING SHARK, ARKANOID 1 AND 2, SLAPFIGHT BUBBLE **BOBBLE, RENEGADE AND** LEGEND OF KAGE. CASS 8.99

SUMMERTIME SPECIAL SOLOMONS KEY, PAPERBOY, BRAVESTARR, CAPTAIN AMERICA, TRANTOR, WORLD CLASS GOBLINS, LEADERBOARD & RYGAR CASS 5.50 SPECTRUM ONLY

THRILLTIME GOLD 1 **GHOSTS AND** BOMBJACK, BATTY & TURBO ESPRIT. CASS 6.99

THRILLTIME GOLD 2 AIRWOLF, SCOOBY DOO. **BATTLESHIPS** SABOTEUR & FRANK BRUNO. CASS 6.99

HEROES BARBARIAN 2, RUNNING MAN, STAR WARS & LICENCE TO KILL. CASS 9.99 DISC 13.99

COMPLETE GAMES CENTRE BRIAN CLOUGH'S FOOTBALL FORTUNES, WIZARD'S LAIR, HI Q QUIZ, ICE TEMPLE, STEVE DAVIS SNOOKER, WOLFPACK, SYNTAX, CASTLE BLACKSTAR. POOL & PINBALL CASS 8.99

QUATTRO POWER MOTO CROSS SIM, TWIN TURBO V8, **POWERBOAT** RACING & ATV SIM. CASS 2.99

QUATTRO SPORTS PRO SNOOKER, GRAND PRIX SIM. PRO SKI AND BMX SIM. CASS 2.99

THE BIZ R-TYPE, **OPERATION WOLF.** DOUBLE DRAGON **BATMAN THE CAPED** CRUSADER.

CASS 9.99

THRILLTIME GOLD 3 COMMANDO, 1942. SPITFIRE COMBAT LYNX, DEEP STRIKE. CASS 6.99

SUPREME CHALLENGE ELITE, STARGLIDER, ACE 2, SENTINEL AND TETRIS. CASS 5.50

THRILLTIME PLAT 1 **BUGGY BOY, SPACE HARRIER,** LIVE AND LET DIE, OVERLANDER, DRAGON'S LAIR, THUNDERCATS, BEYOND THE ICE PALACE, GREAT GURIANOS, HOPPING MAD & **IKARI WARRIORS.** CASS 8.99

SUPREME CHALLENGE SOCCER SPECTACULAR

PETER BEARDSLEY'S INT. FOOTBALL

SOCCER SUPREMO.

FOOTBALL MANAGER

WORLD CHAMPIONS AND

PETER SHILTON'S HANDBALL MARADONA.

CASS 4.99

CALL US ON: 24 Hour Credit Card Hotline 0902 25304



ATARI ST/AMIGA ST AG SPECIAL OFFER 9.99 KILLING GAME SHOW. 16.99 24.99 13.99 6.99 16.99 24.99 27.99 16.99 KINGS QUEST 4. A.M.O.S. GAMES CREATOR SPECIAL OFFER N/A 16.99 ANARCHY..... ANCIENT BATTLES .NEW 13.9916.99 L.E.D. STORM LAST NINJA 2..... LEISURESUIT LARRY ANT HEADS (Came from the desert add-on) LEISURESUIT LARRY LOOK FOR LOVE **B.S.S. JANE SEYMOUR NEW. INCLUDES** LEISURESUIT LARRY FREE FEDERATION OF FREE TRADERS WHILE STOCKS LAST..... LIFE AND DEATH. 16.99 19.99 16.99 16.99 16.99 19.9916.99 .NEW 16.99 LOOM. THE LOST PATROL BACK TO THE FUTURE 2 BACKLASH NEW PRICE 4.99 BALANCE OF POWER 1990 MANCHESTER UNITED BANGKOK KNIGHTS SPECIAL OFFER N/A MANHUNTER IN SAN FRANCISCO. N/A BARBARIAN (PALACE) BARBARIAN (PSYGNOSIS). BATMAN THE MOVIE MANIC MINER .N/A MARBLE MADNESS 6.99 SPECIAL OFFER N/A MATRIX MARAUDERS NEW N/A MIDNIGHT RESISTANCE BATTLE CHESS. 16.99 BATTLE OF BRITAIN (THEIR FINEST HOUR) BATTLE MASTER MIDWINTER 19.99 MIGHT AND MAGIC 2 BATTLESHIPS MILLENIUM 2.2 .12.99 BLASTEROIDS SPECIAL OFFER 6.99 MOONWALKER BLINKYS SCARY SCHOOL MR DO RUN RUN NEW 6.99 BLOODMONEY. SPECIAL OFFER **NEVER MIND** BLOODWYCH **NEW YORK WARRIORS** BLOODWYCH DATA DISC BOMBIACK BOULDERDASH **NEW ZEALAND STORY** NIGHT BREED. **NUCLEAR WAR** 16.99 BREACH 2. ON SAFARI **OPERATION STEALTH** B. CLOUGH FOOTBALL FORTUNES NEW 16.99 16.99 BRIDGE PLAYER 2150 **OPERATION THUNDERBOLT BUGGY BOY ORIENTAL GAMES** NEW 16.99 CAPTAIN BLOOD OUTRUN CARRIER COMMAND. CASTLE MASTER...... SPECIAL OFFER 9.99 PAPERBOY PASSING SHOT N/A 16.99 16.99 16.99 16.99 13.99 24.99 19.99 PINBALL MAGIC PIPEMANIA. PIRATES..... PLAGUE CHASE H.Q... CHESSMASTER 2000. CHRONOQUEST 2.... 13.99 PLAYER MANAGER. SPECIAL OFFER N/A POLICE QUEST 2 POOL OF RADIANCE (1 MEG ONLY). CLOUD KINGDOMS CODENAME ICEMAN (1 MEG). COLONELS BEQUEST (1 MEG). COLOSSUS CHESS 10 SPECIAL OFFER N/A **POPULOUS** 16.99 POPULOUS NEW WORLDS. 6.99 16.99 16.99 4.99 13.99 6.99 16.99 16.99 16.99 16.99 19.99 PRO TENNIS TOUR. PROJECTILE PUB TRIVIA NEW PRICE 9.99 16.99 COMBO RACER. COMMANDO ... A.99 NEW 13.99 SPECIAL OFFER 4.99 SPECIAL OFFER 6.99 13.99 27.99 16.99 16.99 THE PUNISHER CONQUEST CAMELOT QUESTION OF SPORT CORPORATION CAMELOT NEW 16.99 CRICKET CAPTAIN. DAILY DOUBLE HORSE RACING 9.99 DAMOCLES. 16.99 **RESOLUTION 101** DAYS OF THUNDER ... DELUXE STRIP POKER. NEW 16.99 **RICK DANGEROUS** NEW PRICE 9.99 RINGS OF MEDUSA DIZZY DICE DOUBLE DRAGON 2 DRAGONS LAIR ROADBLASTER. 6.99 16.99 16.99 N/A 6.99 16.99 16.99 16.99 19.99 19.99 N/A N/A 29.99 29.99 16.99 DUNGEON MASTER RORKE'S DRIFT N/A 6.99 16.99 DUNGEON MASTER + CHAOS STRIKES BACK DUNGEON MASTER EDITOR ROTOX NEW PRICE 16.99 NEW PRICE 4.99 SPECIAL OFFER 12.99 4.99 4.99 12.99 ELIMINATOR. .NEW N/A SHADOW WARRIORS....SHERMAN M4...SHOOT 'EM UP CONSTRUCTION KIT EMLYN HUGHES INT SOCCER... ESCAPE FROM SINGE'S CASTLE. ESCAPE - ROBOT MONSTERS... F16 COMBAT PILOT..... 16.99 16.99 SPECIAL OFFER 9.99 SILENT SERVICE. SIM CITY EDITOR. F19 STEALTH SPECIAL OFFER 6.99 SPECIAL OFFER 6.99 F29 RETALIATOR SPACE QUEST 3 FAST LANE SPECIAL OFFER 9.99 SPORTING TRIANGLES. SPY WHO LOVED ME... SPY V SPY 1 OR 2 OR 3. STAR RAY.... NEW PRICE 9.99NEW 13.99 4.99 4.99 9.99 19.99 16.99 9.99 SPECIAL OFFER 6.99 STEVE DAVIS SNOOKER NEW PRICE 9.99 STORM ACROSS EUROPE SPECIAL OFFER N/A STUNT CAR RACER. FOOTBALL DIRECTOR 2 SUBBUTEO. .NEW 16.99 ..4.99 13.99 13.99 4.99 13.99 13.99 SUMMER OLYMPIAD SUPER CARS (GREMLIN). 13.99 .13.99 SUPER HANG-ON SPECIAL OFFER 6.99 6.99 19.99 19.99 FORMULA ONE GRAND PRIX FUN SCHOOL 3 UNDER 5 FUN SCHOOL 3 5-7 YEARS FUN SCHOOL 3 7+..... SWORD OF ARAGON N/A T.V. SPORTS BASKETBALL .N/A T.V. SPORTS FOOTBALL 16.99 14.99 TANK ATTACK NEW PRICE 9.99 9.99 4.99 TARGHAN. **FUTURE WARS** TENNIS CUP GARY LINEKER'S HOTSHOTS 6.99 6.99 13.99 13.99 16.99 **TEST DRIVE 2** 16.99 .N/A GHOSTS AND GOBLINS (1 MEG). GHOSTBUSTERS 2..... THUNDERCATS .6.996.99 N/A 16.99 16.99 4.99 16.99 THUNDERSTRIKE 16.99 GHOULS AND GHOSTS. GOLD OF THE AZTECS. GRAND SLAM TENNIS... GRAVITY..... TIE BREAK TENNIS 13.99 16.99 TIME MACHINE 16.99 16.99 .NEW N/A TIMES OF LORE 16.99 16.99 TOWER OF BABEL SPECIAL OFFER 9.99 GREMLINS 2. SPECIAL OFFER 9.99 NEW 6.99 TRACKSUIT MANAGER NEW PRICE 4.99 GRIDIRON.....GUARDIAN ANGELS. N/A 6.99 16.99 16.99 16.99 19.99 24.99 16.99 9.99 6.99 16.99 TREASURE ISLAND DIZZY. 4.99 TREBLE CHAMPIONS 13.99 13.99 TURBO CUP CAR RACING SIM 13.99 HARDBALL 2 TURBO OUTRUN. 16.99 HARD DRIVIN'.... HARLEY DAVIDSON... HEROES QUEST (1 MEG). HONDA RVF 750 NEW 13.99 13.99 TURRICAN NEW 13.99 13.99 TUSKER 13.99 16.99 16.99 U.M.S. 2 NEW 19.99 19.99 **ULTIMA 5** 19.99 N/A ULTIMATE GOLF-GREG NORMAN 16.99 16.99 **IKARI WARRIORS** IMMORTAL (1 MEG ONY). NEW 16.99 VENUS FLY TRAP. .13.99 13.99 IMPERIUM 16.99 16.99 VIGILANTE. .9.99 .13.99 16.99 VIKING CHILD NEW N/A 16.99 6.99 WAYNE GRETZKY HOCKEY. 16.99 INDIANA JONES LAST CRUSADE... INDIANA JONES THE ADVENTURE .13.99 .16.99WATERLOO 16.99 16.99 4.99 IT CAME FROM THE DESERT (1 MEG ONLY WICKED NEW PRICE N/A WINGS (1 MEG ONLY). WINGS OF FURY NEW N/A N/A 9.99 16.99 ...3.99 WORLD BOXING MANAGER .13.99 13.99 WORLD CLASS LEADERBOARD 16.99 6.99 JACK NICKLAUS GOLF... JOCKY WILSONS DARTS 16.99 16.99 WORLD SOCCER NEW 6.99 6.99 6.99 3.99 16.99 13.99 16.99 X-OUT. 13.99 KARATE KID 2. **XENOMORPH** 16.99 16.99 SPECIAL OFFER 12.99 XENON 2 12.99 13.99 YES PRIME MINISTER. 4.99 16.99 16.99 13.99 NEW 4.99

YOLANDA

ZOMBI

NEW 16.99

.13.99

16.99

KICK OFF 2 + WORLD CUP

KICK OFF EXTRA TIME

SIXTEEN BIT COMPILATIONS

HARD DRIVIN', TOOBIN, DRAGON SPIRIT, XYBOTS & A.P.B. ST AND **AMIGA 19.99**

GREMLIN TRIPLE PACK AXELS MAGIC HAMMER SWITCHBLADE & MINDBENDER .ST AND AMIGA 16.99

BARBARIAN 2. RUNNING MAN, STAR WARS & LICENCE TO KILL ST AND AMIGA 19.99

COLLECTION 2 MERCENARY, **ELIMINATOR BACKLASH &** CUSTODIAN. **ST ONLY 9.99**

STORY SO FAR VOL 1 **IKARI WARRIORS. BUGGY BOY,** BATTLESHIP & BEYOND THE ICE PALACE. ST 9.99

WORLD CUP COMPILATION KICK OFF, TRACKSUIT MANAGER & INTERNATIONAL SOCCER, ST AND **AMIGA 16.99**

ALL TIME **FAVOURITES TEST** DRIVE, MEAN 18, FAMOUS COURSES 1 & 2 AND HARDBALL. ST AND AMIGA 19.99

TRIAD VOL 3 SPEEDBALL, BLOOD **MONEY & ROCKET** RANGER. ST AND **AMIGA** 19.99

MAGNUM FOUR OPERATION WOLF, AFTERBURNER. **DOUBLE DRAGON 8** BATMAN THE CAPED CRUSADER. ST AND **AMIGA 19.99**

THRILLTIME PLATINUM VOL 2 IKARI WARRIORS, BUGGY BOY, BOMBJACK, SPACE HARRIER, LIVE AND LET DIE THUNDERCATS, BEYOND THE ICE PALACE AND BATTLESHIPS. ST AND **AMIGA 16.99**

3.5 inch DOUBLE SIDED, DOUBLE DENSITY, WITH LABELS

1	£0.69
10	.£5.99
25	£13.99
3.5" 40 PIECE DISC BOX	.£6.99
3.5" 80 PIECE DISC BOX	.£7.99
MOUSE MATS	.£2.99
ST & AG EXTENSION LEADS	.£5.99
NAKSHA UPGRADE MOUSE	£29.99

NEW PRICE ON EXPANSIONS

AMIGA 1/2 MEG EXPANSION.£39.99 AMIGA 1.2 MEG EXPANSION + CLOCK.....£49.99 AMIGA 1/2 MEG EXPANSION + DUNGEON MASTER£59.99 AMIGA 1/2 MEG + CLOCK + DUNGEON MASTER....£69.99 AMIGA 4 MEG INTERNAL RAM EXPANSION.....£299.99

HINT BOOKS BARDS TALE 1 OR 2 OR 3£5.00 CHAMPIONS OF KRYNN£7.99 CODENAME ICEMAN.....£8.99 COLONELS BEQUEST£8.99 CONQUEST OF CAMELOT£8.99 CURSE OF AZURE BONDS£7.99 DRAGONS OF FLAME.....£4.00 DUNGEON MASTER....£9.99 HEROES OF THE LANCE£4.00 HEROES QUEST£8.99 HILLSFAR£7.99 INDIANA JONES THE ADVENTURE £4.99 KINGS QUEST 1 OR 2 OR 3 OR 4.....£8.99 LEISURESUIT LARRY 1 OR 2 OR 3.....£8.99 MIGHT AND MAGIC 2£5.99 POLICE QUEST 2£8.99 POOL OF RADIANCE£7.99 SECRET OF THE SILVER BLADES .£7.99 SPACE QUEST 1 OR 2 OR 3£8.99

ORDER FORM AND INFORMATION

All orders sent FIRST CLASS subject to availability. Just fill in the coupon and send it to:- Software City, Unit 4, B.D.C. 21 Temple Street, Wolverhampton, WV2 4AN

ORDER FORM (Block Capitals) ---Name..... Tel no.....

Name of game	computer	value
	postage	
	TOTAL	

■ EEC countries add £1 per item. Non EEC countries add £2 per item. PAYING BY CHEQUE - Cheques payable to Software City

Card Type	Expiry Date	
Card Number		

EUROPEAN ORDERS Signature MASTERCARD **EUROCARD ACCEPTED**

LETSC11



BONANTA

We've 153 packs of Bug Bash and Nucleus to give away!

Teach your computer to count - in French!

> Make your micro make money See how your computer can be used to

> raise funds

Who goes there? Build your own Father Christmas Detector!

How healthy are you? Find out your own score!

Test your memory with Alphabet Simon!

. . . and more and more and more prizes for you to win!

Commodore A500 Flight Of Fantasy Cr Commodore ETALIAT Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer. with mouse controller and TV modulator, as well as four top software titles. These include the following: DELUXE PAINT II: F29 RETALIATOR: The high quality graphics program that The ultimate in flight simulation with a choice set the standard for other Amiga art of two aircraft and four battle environments packages. Deluxe Paint II includes with dozens of different tactical missions. Aerial combat, strategic bombings, interacpowerful, easy to use tools that bring out the artist in you. Create maste pieces, presentations, 3D perspectives the list of features is endless. Real time or just doodle. cockpit displays, including 'true radar' enhance the realistic feel of this stunning

The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the Commodore Amiga 500 computer with mouse controller and TV modulator, plus four top software titles. The software includes: 'Batman The Movie' - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; New Zealand Story - high quality conversion of the leading arcade game; Interceptor - Dogfight with two F-16's in this leading flight simulator; Deluxe Paint II - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:

I MAIL IIIAMAM	
A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	€49.95

TOTAL RRP: £549.78 Less Pack Saving: £150.78

PACK PRICE: £399.00



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 com-

+VAT= £1489.25

puter systems.

the Humans escape.

ESCAPE / ROBOT MONSTERS:

Here's something completely different a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help

RAINBOW ISLANDS:

Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the Island of Doh to Monster Island, you will encounter Doh himself, stinging insects. lethal combat machines, mechanical assailants, the formidable beings of legend and folklore. Finally enter the world of darkness and its inhabitants.

PACK INCLUDES:

A500 Computer & Mouse £399.99 A520 TV Modulator £24.99 Deluxe Paint II £49.95 Escape/Robot Monsters £19.99 Rainbow Islands £24.95 F29 Retaliator £24.95

TOTAL RRP: £544.82 Less Pack Saving: £145.82

PACK PRICE: £399.00

THE UK's No1 AMIGA SPECIALISTS

SILICA

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK. TECHNICAL SUPPORT HELPLINE: Team of Amiga technical experts at your service. PRICE MATCH: We normally match competitors on a "Same product - Same price" basis. ESTABLISHED 12 YEARS: Proven track record in professional computer sales. £13M TURNOVER (with 60 staff): Solid and reliable with maintained growth. BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders. SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches. THE FULL STOCK RANGE: All of your Amiga requirements from one supplier. FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details. PAYMENT: By cash, cheque and all major credit cards. CREDIT PAYMENT TERMS: Silica are licensed credit brokers - return coupon for details.

Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return

the coupon now for our latest Free literature and begin to experience the "Silica Shop Service"



MAIL ORDER: Order Lines Open:	Mon-Sat	1-4 The 9.00am-6	Mews,	Hatherley No L	Rd,	Sidcup, ght Openi	Kent,	DA14		Tel: 081-3 No: 081-308	
LONDON SHOP: Opening Hours:	Mon-Sat			am Court					Fax	Tel: 071-5 No: 071-323	80 4000 4737
SIDCUP SHOP: Opening Hours:				Hatherley	Rd, Night:	Sidcup, Friday ur	Kent, ntil 7pm	DA14		Tel: 081-3 No: 081-309	
Order Lines Open:						Sidcup, Saturdays		DA14		Tel: 081-3 No: 081-308	

To: Silica Shop, Dept LETSC 1190-32, 1-4 The Mews, Hatherley Rd, Sidcup, Kent DA14 4DX

				-		
DIFACE	CLND	INFORM	TION	ON	THE	AMICA
PIFACE						

Mr/Mrs/Ms:	Initials:	Surname:	
Address:			

Which computer(s), if any, do you own? E&OE - Advertised prices and specifications may change - please return the coupon for the latest information

MICROTEC

ENTERTAINMENT

PRESENTS

In conjunction with Mutation Software



P	v	D	•	-	D	D	h	_	-	
D	y		0	2	Ву		11	0	п	. 6

Please rush me a copy of Bug-Bash/Nucleus
I enclose a cheque/postal order for £12.99
plus £1.00 post and packaging

NAME_____ADDRESS _____

POSTCODE .

To order by Access or Visa

RING

071 - 281 9022

Also available from your local computer store

MICROTEC ENTERTAINMENT, 61 STROUD GREEN ROAD, LONDON N4 3EG.